



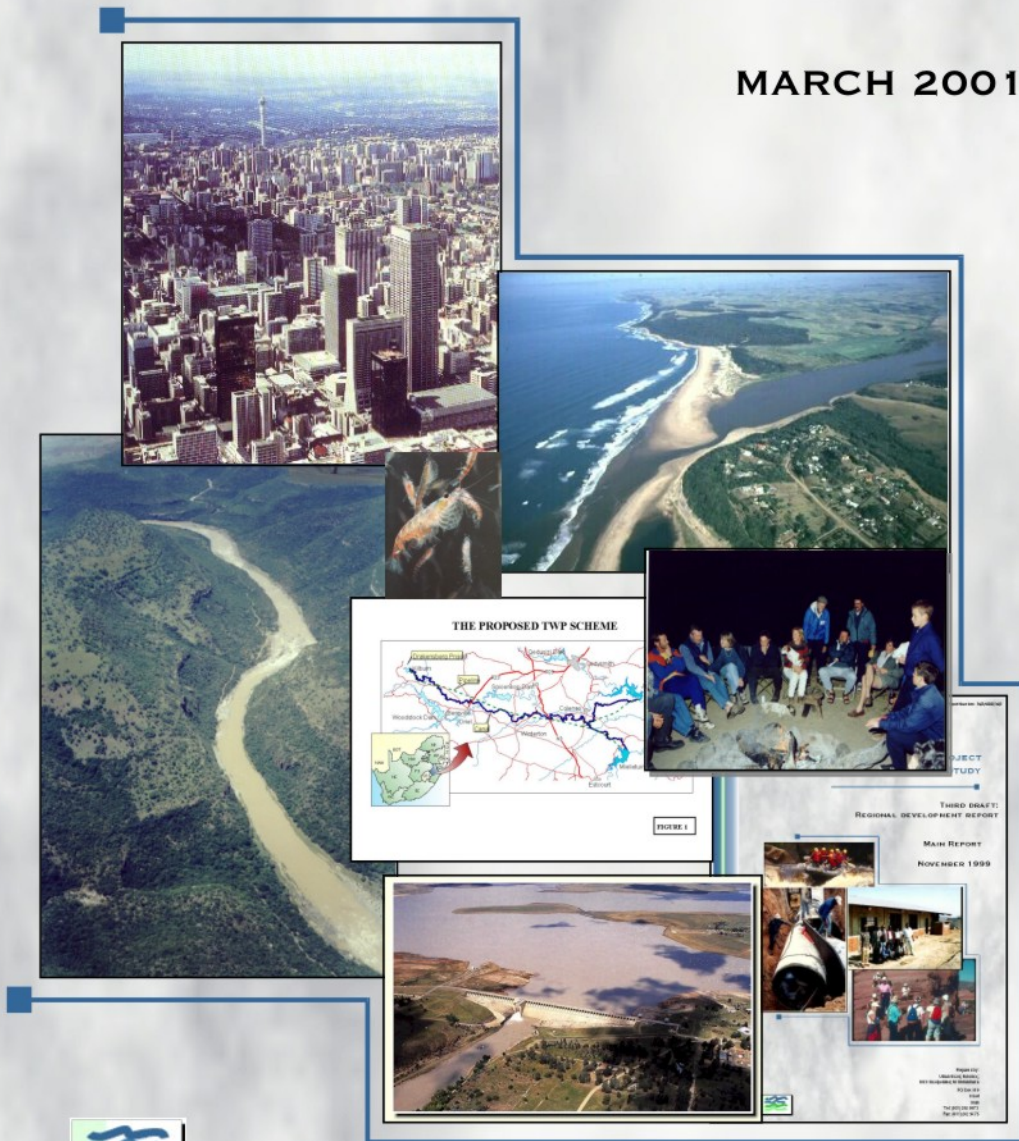
Republic of South Africa  
Department of Water Affairs and Forestry



# THUKELA WATER PROJECT FEASIBILITY STUDY

## PROJECT LEGAL AND ADMINISTRATIVE FRAMEWORK

MARCH 2001



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**REPORT**

ON THE

**PROJECT LEGAL AND ADMINISTRATIVE FRAMEWORK**

OF THE

**THUKELA WATER PROJECT**

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MARCH 2001

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## THUKELA WATER PROJECT FEASIBILITY STUDY PROJECT LEGAL AND ADMINISTRATIVE FRAMEWORK

### SUMMARY

This report is divided broadly into three parts. The first describes the characteristics of and the manner in which, policy and decision-making processes are run and the context in which these should be seen for the TWP. Secondly, it looks at the requirements, characteristics and implications for the TWP, of generally applicable environmental law principles, and specific legislation such as the Constitution, the National Water Act, NEMA and other related statutes. Thirdly it examines the legal context of certain key environmental issues formulated during the scoping phase of the environmental assessment process, and which were summarised in the Background Document and Environmental Issues Report.

The purpose of the Report on Legal and Administrative Framework for the TWP is to provide a structure in which the many decisions made to implement the project, are harmonized with the applicable legal requirements, in a way that avoids or neutralises conflict and prevents delays in the implementation, or even the cancellation of the project.

#### **Policy and decision-making processes**

The process of incremental decision-making is an integral and indivisible part of implementing and applying policy and legislative prescripts. It is also so that the legislative requirements dictate that an incremental process of implementation be followed in implementation. Such a process, as was the case with the TWP, would firstly consider broad issues and aspects relating to the achievement of some strategic intent or specific higher order goals, contained within a broad policy framework.

The second part of the process considers various stages of more detailed analysis, built around a focus on the detailed implementation, where a proponent such as DWAF, must be satisfied that the framework "promised" in the original assumptions and policy guidelines, will in effect be established and that the management programme devised will in fact be implemented properly. This is what happened with the TWP. The first round of decisions were made after an extensive exercise of reconnaissance and pre-feasibility studies had been carried out. This then led to the feasibility level investigations, whose purpose it is, to establish the broad framework from which decisions regarding the implementation of the for development can be made. After this decision has been made, the third part of the decision making process will come into play namely, dealing with detailed implementation of the project. It is essential that the outcomes at all stages of the decision making process for the TWP, namely the different records of decision, are reduced to writing in a clear and unambiguous manner.

As a result of the incremental decision making process followed in the TWP investigations, it would appear that rights have been vested to undertake a project such as the TWP. In the normal run of things, rights that have vested, become final and need not be revisited or reconsidered. The implications for a Department of State such as DWAF, are that actions of the State must focus on the best interests of all its citizens. Should a contemporary evaluation show that the detrimental effect to the entire community of implementing a right would be bigger than refraining from implementing it, the it would be proper to refrain from implementing that right. Because of the Constitutional requirements in South Africa today that *"everyone has the right to administrative action that is lawful, reasonable and*

*procedurally fair*", it has become imperative that any administrative actions taken should be seen to be not only lawful and procedurally correct, but also have to be reasonable. An administrative decision must therefore reflect that a reasoned process had been followed in order to arrive at it. What is more, the official who took the decision can be required to explain and justify the trend of reasoning followed.

In terms of factors and considerations that affect the viability of the TWP, it is not important that at this stage to test whether the decisions taken in the past were reasonable or not. Decisions taken in the past must be measured against the requirements that existed at the time the decision was taken. What is important for the TWP is that the position *vis-à-vis* future decisions be clearly understood. Part of the future decision could include a re-evaluation of the validity of a previous decision. The key to dealing with the difficulties and risks of administrative actions in the future, is to ensure that the test of reasonableness is always applied. It must be built into all the decision-making processes so that all the important factors which should be considered, are considered **and that there is a paper trail to show for it**. These would include things such as Records of Decision and other documents.

### **Environmental law and specific legislation**

The main pieces of legislation that are dealt with in the report are:

- Constitution of the Republic of South Africa Act, 108 of 1996;
- Development Facilitation Act, 67 of 1995;
- National Water Act, No 36 of 1998;
- Water Services Act, No 108 of 1997;
- Environment Conservation Act, No 73 of 1989;
- National Environmental Management Act, No 107 of 1998.

From the National Water Act, two issues of importance have been identified relating to the implementation of the TWP. They are the question of a national water resources strategy (NWRS) (sections 5, 6 and 7), and the question of the Reserve (sections 16, 17 and 18).

What the Act quite simply wants to achieve is that in both cases the focus must be on a properly staged or phased management system as part of a water resources strategy for the country. The water resources of the Thukela River must be part of this overarching strategy and it is therefore necessary that DWAF as a matter of urgency addresses the management of water in this river system. However, it is submitted that it is not necessary for DWAF to delay a decision concerning the implementation of the TWP, until such a national strategy regarding the Thukela has been established. It would not be unreasonable to expect of DWAF, given the particular circumstances in this case, to make a decision regarding the continuation of the TWP, in the absence of a NWR Strategy.

The case is similar although not entirely the same for the determination of the Reserve. What has to happen is that wide-ranging research will have to be done and a water resources strategy developed within a carefully structured process. This process and the information required are virtually identical for decisions regarding the implementation of the TWP and for the formulation of a NWR Strategy. Failure to act within the spirit of the law, would not amount to reasonable administrative action. Work on determining the Reserve and the formulation of a strategy for the management of the water resources of the Thukela River, as part of a national strategy, must therefore be put in hand without delay.

### **Conclusion**

The report concludes by commenting on each of the issues raised at national policy, regional

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and site specific level, for the TWP, and as contained in the Background Document and Environmental Issues Report (section 7). In some cases there are certain legal requirements, which will have to be attended to during the decision-making phase, implementation and operational phases of the TWP. Failure to do so could in some cases have fairly serious effects on the viability and progress of the project.

# THUKELA WATER PROJECT FEASIBILITY STUDY

## REPORT ON PROJECT LEGAL AND ADMINISTRATIVE FRAMEWORK

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**GLOSSARY**

|      |  |
|------|--|
| AIDS | Acquired Immune Deficiency Syndrome                |
| AJA  | Acting Judge of Appeal                             |
| CJ   | Chief Justice                                      |
| DWAF | Department of Water Affairs and Forestry           |
| ECA  | Environmental Conservation Act No. 73 1989         |
| HIV  | Human immuno-deficiency virus                      |
| JA   | Judge of Appeal                                    |
| NEMA | National Environmental Management Act No. 107 1998 |
| NWRS | National water resource strategy                   |
| RWQO | Receiving water quality objectives                 |
| SCA  | Supreme Court of Appeal                            |
| TWP  | Thukela Water Project                              |

## THUKELA WATER PROJECT FEASIBILITY STUDY PROJECT LEGAL AND ADMINISTRATIVE FRAMEWORK

### 1. INTRODUCTION

The Thukela Water Project (TWP) is one of several projects that could be implemented to augment water in the Vaal Catchment. It is “a water transfer scheme, whereby existing transfers of water ... from the Thukela River in KwaZulu-Natal to the Vaal River System” (this module’s ToR) could be increased. The Department of Water Affairs and Forestry (DWAFF) “is in the process of conducting a feasibility study for a proposed water resource development in the Thukela River Basin for inter-basin transfer to the Vaal River System” (p1, chapter 1: Department of Water Affairs and Forestry, South Africa. 1999. *Background Document and Environmental Issues Report – the Background Document: PB V000-00-6499*).

The main components of my instructions are to investigate two aspects. The first is to describe the “*characteristics of and the manner in which, policy and decision-making processes are run and the context in which these should be seen*” for the framework in which the TWP must be evaluated. Secondly, “*the requirements, characteristics and implications for the TWP, of generally applicable environmental law principles, and specific legislation such as the Constitution, the National Water Act, NEMA and other related statutes*” or the applicable environmental law.

### 2. THE PURPOSE OF THE REPORT

The purpose of the Report is to provide a structure in which the series of decisions that must be made to implement the project, meet with the applicable legal requirements in a way that avoids or neutralises conflict and prevents delays in the implementation of the project or even the cancellation of the project. In this regard the choice of the words “*feasibility study*” is a useful point of departure to elaborate on the purpose of the Report.

A feasibility study is “*a study of the practicability of a proposed project*” (Concise Oxford p492). The purpose of such studies is to identify aspects that may have an effect on the viability of projects. In conducting feasibility studies, aspects can be revealed that may be so serious that they could prevent implementation of the project. An example is where a study of a site identified provisionally as a waste disposal site reveals a fatal flaw. The study may also reveal aspects not necessarily fatal to the project but that could increase the cost, delay commissioning or extend the time needed to implement the project. Early identification of such aspects in a feasibility study makes it possible to address them in a way that ensures that any adverse effects are dealt with, mitigated or avoided. This helps to ensure that if the project is continued with, its final design is capable of efficient implementation within budgetary constraints.

To a large extent feasibility studies for many years focused on the technical feasibility of projects and the affordability of the project given the final technical design. For a variety of reasons that need not be discussed now, it has become equally important to establish the environmental legal feasibility of projects. This is among others what the Supreme Court of Appeal had in mind when it found in

a recent case that “together with the change in the ideological climate must also come a change in our legal and administrative approach to environmental concerns”. (*Director: Mineral Development, Gauteng Region, and another v Save the Vaal Environment and others* 1999 (2) SA 709 (SCA), the so-called Save/Sasol case, at 719D)

Environmental legal feasibility has much in common with technical feasibility. In both cases an investigation of all relevant aspects might reveal that a proposed project should be abandoned. Investigations might also reveal that the project could be implemented but should be changed or adapted to meet with appropriate requirements. It could also indicate that although the project could be implemented, given the information revealed, an alternative option should rather be implemented. In both cases failure to investigate all appropriate issues is risky. A fatal or serious flaw might in such a case be established after the project had been decided upon, contracts concluded for its implementation and costly work done. In the case of a technical flaw the reality of the technical flaw could dictate that the project be abandoned or redesigned at great cost. In the case of an environmental legal flaw, an application to a court of law could also confront the client with the reality that the project must be abandoned or must be redesigned at great cost.

### **3. DEFINING THE FRAMEWORK IN WHICH THE TWP MUST BE EVALUATED**

The project as it stands is specifically defined as a water transfer scheme, transferring water from the Thukela River to the Vaal River System. It is legally not acceptable to consider this project in isolation. Over the past number of years a wide-ranging general environmental legal structure had been established that definitively laid down the parameters in which the TWP must fit. These parameters were further refined through the development over the years of a process of incremental decision-making, which is a cascading of consequential decisions. These decisions start off with a decision as to whether, in principle, the project should be undertaken with further decisions addressing the broad framework for implementation, the detailed implementation and then the ongoing management of the project. It is correct that the client must base its further decisions (such as the placing of a dam in the Thukela River) on existing or vested rights established on the strength of decisions taken in the past. It might however find that it has to revisit some decisions taken previously.

The two concepts of incremental decision-making and of vested rights must therefore be analysed in more detail.

### **4. GENERAL ENVIRONMENTAL LEGAL STRUCTURE**

The discipline of environmental protection is of relatively recent origin. It is only over the last few decades that it has become generally accepted that the earth's environmental resources should be protected. At first the focus was on the conservation or the protection of the resources. It was sought to achieve this through the prohibition of actions that could impact adversely on the environment. Legislation for this purpose is generally known as command-and-control measures. It tended to be reactive. Thus it was made a criminal offence to pollute water or the air or to allow erosion of the soil. These measures simply

did not work. A department such as DWAF for example tried to protect water quality through their Uniform Effluent Standards approach. This is a typical command-and-control approach. In the document "Water Quality Management Policies and Strategies in the RSA" published in April 1991 by DWAF, the failure of uniform standards to prevent the steady decline in water quality country wide forms the justification of the change in direction of water quality control.

In order to address environmental quality effectively a new approach was necessary. The approach that was adopted can be called the management approach. This approach first emerged in South Africa in discussions during the 1980's that resulted in the publication by the Council for the Environment of the guidelines for Integrated Environmental Management in April 1989. The management approach that were then generally applied throughout all fields of environmental control is well illustrated by the Receiving Water Quality Objectives approach reflected in the document "Water Quality Management Policies and Strategies in the RSA" referred to above. The very last thing that I need to do is to explain this concept to DWAF. The implications that it has with regard to the environmental management approach should however be highlighted.

## **5. THE PROCESS OF INCREMENTAL DECISION-MAKING**

### **5.1 Broad Overview**

In all modern states, governmental functions have greatly expanded with the emergence of government as an active force in guiding social and economic development. In developing economies, government assumes a much wider range and diversity of responsibilities for many different types of economic behaviour, than would be the case in a developed country. All modern governments, to a greater or lesser extent, participate directly in the economy, purchasing goods, operating industries, providing services, and promoting various economic activities. Government is one of the most important consumers of goods, and governments do use their pricing, purchasing, and contracting powers to achieve various economic, social and even political aims.

South Africa is no exception and government in this country is the major or dominant organising power in planning and directing economic and social change and advancement. The manner in which this is done is through a cycle or process of policy formulation, legislative empowerment and application or implementation. Assemblies, congresses, and other parliamentary institutions provide for public hearings on major issues of policy and require formal deliberative procedures at different stages of the legislative process.

Application and implementation of policy directives and legislation is effected through a system of public administration, which has a number of specific features. The first is that the organisation has a hierarchical, or pyramidal, character, by which a single chief executive oversees a few subordinates, who in turn oversee their chief subordinates, who are in turn responsible for overseeing other subordinates, and so on until a great structure of personnel is integrated and focussed on the components of a particular program. Secondly, there is a division of labour or specialisation within the organisation, in which each

individual in the hierarchy has specialised responsibilities and tasks. Thirdly, there is usually maintenance of detailed official records and the existence of precise procedures through which the personnel of the system communicate with each other and with the public.

In the context of the Thukela Water Project (TWP), and in dealing with the issue of incremental decision-making, it is important to understand that this process is an integral and indivisible part of implementing and applying policy and legislative prescripts. The manner in which policy and legislation are shaped and formed is therefore also important, since it will influence the manner in which a project such as the TWP will be structured, the way in which it is administered and the administrative processes which are used.

## **5.2 Policy and Legislative Processes**

Policy is a purposive course of action based on currently acceptable societal values followed in dealing with a problem or matter of concern, predicting the state of affairs which would prevail when that purpose has been achieved (Centre for Developing Enterprise, Building Policy Skills in South Africa, 1995).

It may be said that all new policy is likely to evoke some form of dissent in a democratic society. Nevertheless policy making and implementation, need not necessarily be adversarial in nature. What must be realised is that different policies, and even different pieces of legislation, which are formulated with different objectives in mind, may contradict one another. This does not then make them invalid or flawed, but it does place a big responsibility on those in positions where administrative decisions have to be made, to do so in a manner which respects the rights of others, and minimises the chances of conflict.

There are many different ways in which policy can be formulated or made. The following are perhaps the most important and it is not the intention to discuss or analyse all of them in this document:

- Institutional model
- Process model
- Group model
- Elite model
- Rational model
- Incremental model
- Game theory model
- Public choice model
- Systems model

A particular policy may also not be the product of any one of the models listed, but rather a combination of two or more. What is important in the context of the TWP, is that in this country, policy making has moved from being very much in the mould of the elitist approach, to a situation where the process model, together with factors such as public choice and incremental decision-making are now the order of the day.

The reason for this was the change of priorities and the need for and demands of

reconstruction and development that emerged and became established during the decade of the nineties. The challenge for development in this country remains to find an agreed way forward, among many differing groups and agendas, with different interests and responsibilities.

The TWP is a very large and complex development project, originating from policy level decisions within the national government. These policies relate not only to strategic water supply. Other major government policies such as job creation, land reform, economic empowerment of previously disadvantaged people and elimination of discrimination and establishment of equity in natural resource utilisation, will have to be considered in assessing the consequences of the TWP as well. It is a project that will have profound effects at many different levels and in many different ways over a long period of time. Government ministries such as the Department of Water Affairs and Forestry, are mandated to carry out and implement government policy. There is a very specific onus on them to see that 'environmental considerations be accorded appropriate recognition and respect in the administrative processes in our country.' They must see to it that there is 'a change in our legal and administrative approach to environmental concerns' as stated in *Director: Mineral Development, Gauteng region, and another v Save the Vaal Environment and others* 1999 (2) SA 709 (SCA) at 719D per Olivier JA, the Save/Sasol case.

What is discussed below therefore, is an explanation of some of the more important legal and institutional considerations and requirements for the implementation of a development project, namely the TWP. It is within this framework that the officials who are involved in the decision-making processes for the TWP, will have to act. Members of the public, or interested and affected parties, should also understand what their rights are within the context of the TWP, the place which they have in the decision-making process, and the way in which they are able, or not allowed, to influence it.

### 5.3 The Incremental or Sequential Decision-making Approach

Most environmental decisions are taken in a structured incremental or sequential decision-making approach. This is not because there is some law that stated that an incremental decision-making approach must be followed. It is rather because the exigencies of relying on the management framework to achieve acceptable environmental outcomes, dictate a process of taking decisions incrementally. It is of course unavoidable that legislation will increasingly reflect an acceptance that this incremental process is being followed. As is for example explained on p130 to p133 of the book *Environmental Law for All*, by Duard Barnard, sections 9 and 39 of the Mineral Act, 50 of 1991 introduces an incremental decision-making process. There are also several other examples.

Of importance furthermore is the attitude reflected in the Green Paper on Development and Planning published May 1999 by the National Development and Planning Commission and the Department of Land Affairs. It states in paragraph 4.6.3 on p53 that

*"in the case of large projects, local authorities should adopt a sequential system of approvals, which enables an ongoing 'conversation' between developers and local authorities, as opposed to a simple 'yes/no' decision*

*at the end of a long process. Commonly, these would have at least three stages. 1. Approval in principle ... 2. Approval of a developmental framework ... 3. Approval of building plans ...”*

In its effect, the RWQO (receiving water quality objectives) approach enforces an incremental decision-making process. This approach presupposes that different water bodies will have different water quality requirements. The proponent of a new project that may have a severe impact on water quality will consider this reality in planning his project. If he is a prudent businessman, he will approach DWAF right at the beginning of the planning process launched by him to develop his project. He will provide DWAF with the broad outlines of his process and the proposed location of his works. At that stage DWAF might inform him that the requirements of the receiving water body in that catchment will demand particularly high compliance with certain water quality guidelines. The proponent might then find that the cost of installing machinery capable of meeting such high standards could well outweigh the costs of removing to a different catchment where the requirements of the receiving water body is substantially less onerous. In effect therefore the first decision that the proponent takes after involving all important stakeholders right from the beginning deals with the principle as to whether he should establish his project and where it should be done.

This is in effect the first stage in the incremental decision-making process. During this stage a specific set of circumstances must be considered. In the Save/Sasol action, it is for example stated (at 718G) “*at the s9 (of the Minerals Act) stage the basic issue is whether a mining license should be granted or not; at the s39 stage what is under consideration is the environmental management programme*”. Obviously a different set of considerations must be considered when a decision in principle must be decided to the set of considerations that should be considered when an implementational aspect should be decided.

In the example dealing with receiving water quality standards, the next incremental decision that should be made, after a decision had been reached with regard to the place where the project should be sited, is a decision as to the broad framework of implementation. For this purpose the proponent needs to satisfy DWAF that the process that he proposes to establish, the machinery that he intends using and the design of his plant, dealing with aspects such as storm water, wastages, emergencies, etc. is such that the laid down receiving water quality standards can be met.

The next incremental stage is the detailed implementation where DWAF must be satisfied that the framework “promised” by the proponent is in effect established and that the management programme devised by the proponent and provided to and agreed to by DWAF is in fact implemented properly.

From this discussion the following can be extracted. An incremental process of decision-making had been established as a general framework for decision-making as it may affect the environment. This process works hand in hand with the ordinary management process that the business community had established over the years. The process requires that all aspects, including environmental aspects, are considered right from the beginning of the process. As is implied in the IEM literature, all role-players should be brought on board at the beginning of the planning process. The first step that should be cleared out is whether a development should be allowed in principle. For this decision a certain set of

considerations needs to be considered. Once the first decision had been made, the second stage is to establish the broad framework for development and again a different set of circumstances must be considered in order to arrive at an acceptable decision in this regard. Once this decision had been made the third decision, dealing with detailed implementation needs to be made.

#### **5.4 The Incremental Decision-making Process Relevant to the TWP**

Deciding on the utilization of the South African water resources is certainly not something that could be dealt with other than at the highest national level. The cascading of decision-making with regard to water management on different management levels are well illustrated in the National Water Act. Deciding whether water should be transferred to the Vaal Catchment and, if so, how, is a decision that should probably be taken at the very highest level of decision-making, namely the Cabinet. If not at that level, then at least by the Minister of DWAF.

What is more, is that it is not now and has for many years not been the approach of DWAF to take one-off yes/no decisions. The approach was to do it in an incremental manner. In this regard the TWP Feasibility Study - Background Document and Environmental Issues Report of September 1999 sets out the incremental process that had been followed by DWAF in considering the water needs of the Vaal Catchment. Consider for example the different options investigated and mentioned in paragraph 2.2 with regard to deciding on a source of water for augmentation purposes and in paragraph 2.3 an investigation into the need for augmentation if viewed against savings in water use resulting from appropriate demand management strategies. It is on the strength of this incremental approach that the point had been reached where the feasibility study is considering the transfer of water out of the Thukela from a few sites, down from some 70 sites originally investigated.

This feasibility study however dealt only or at least mainly with technical feasibility and the attendant expenses. At no stage did the feasibility study focus specifically and in depth on the environmental legal feasibility of the project.

### **6. THE ENVIRONMENTAL LEGAL INCREMENTAL PROCESS AS IT AFFECTS THE TWP**

In order to meet with the requirements of incremental decision-making as it affects the environmental legal component of the TWP, the following steps must be investigated:

The first step is what should the approach in principle be with regard to the transfer of water to the Vaal Catchment. Should it be done and, if so, from where should the water be obtained. This aspect closely correlates with the aspects dealt with in paragraphs 7.1.1, 7.2.1, 7.3.1 and 7.4.1 of the Background Document dealing with national policy or multi-regional level and the level of policy level assessment set out in the Background Document.

The second step deals with the broad framework for the implementation of a decided option. Once the decision had been made that water should be transferred from the Thukela Catchment to the Vaal Catchment, a decision must

be arrived at with regard to a number of considerations. These could include the following: Where should the dams be, should a number of small dams or a restricted number of large dams be chosen, what approach should be followed with regard to the establishment of roads, services and residential infrastructure near the proposed dam, etc. This stage corresponds closely to the considerations mentioned in paragraphs 7.1.2, 7.2.2, 7.3.2 and 7.4.2 dealing with regional development and set out in the Background Document.

At the third stage, the detailed planning for the implementation of the project must be undertaken. It is at this stage that precise building structures, placing of dam walls, building of access roads, staff quarters, etc. is considered. This stage again closely correlates with paragraphs 7.1.3, 7.2.3, 7.3.3 and 7.4.3 dealing with site specific options set out in the Background Document.

Please do not regard this process as being controlled by rigid rules. The broad thrust of the process is given. The steps do not however necessarily follow the given sequence or chronology strictly. Furthermore, although they are different steps, they not only influence one another, but can definitively set the parameters in which the next step should be taken. It is therefore inevitable that an iterative process of assessment or investigation should be used. As further mentioned above, it is not as if there is any law that makes it incumbent on DWAF to follow this incremental process. It is practical realities that dictate that such a process should be followed. Somewhere along the line a decision in principle must be reached. There is no sense in doing an enormous amount of detailed implementational research before clarity as to the advisability of the decision in principle had been reached. (It should be mentioned that we do not regard present TWP Feasibility Study as the doing of detailed work. This, in our view, is in effect still part of the process of establishing the broad framework for implementation. It is one of the final steps before detailed investigation is carried out.)

The practical problem it would seem, is that failure to properly sign off the decision in principle effectively can result in an extensive loss of time and money and wasted effort. Let us assume for a moment that if the project is considered many years later, it appears with hindsight that in considering alternative sources of water, the decision should have been to utilise icebergs. It may therefore happen that an interested or affected party can take DWAF to court for an order that the administrative decision to use the Thukela as a source of water should be set aside and should be replaced with a decision to use icebergs instead. The time and effort spent on considering the Thukela as a source of water would then have been wasted. The other problems caused by such a decision can be well imagined. An important focus must therefore be to ensure that the chances of something like that happening is minimised.

One should of course not be too prescriptive about how precisely the incremental steps should be taken. As happens in management planning in general, different options in principle are evaluated on the strength of information then available. The alternative then identified as the least expensive and most advantageous is decided upon. After subjecting this option to a more detailed analysis, it might well become apparent that certain aspects that at the first evaluation appeared to fall within acceptable parameters are now shown to present far more formidable obstacles. This would obviously necessitate a revisiting of the decision in principle.

Environmental decision-making could be compared to making the decision to get married. Too frequently the management decision to marry is taken without properly considering the principle of whether to marry or not. The merits and demerits of the alternative marriage partners are not considered and each possible spouse is not revisited as frequently as may be necessary to establish the feasibility of the detailed implementation of a workable marriage relationship. A failure to conduct detailed investigations and research to ensure a good marriage management decision can cause the detailed implementation of the marriage project (by getting married) to be unsuccessful resulting in unpleasantness and a waste of time and money.

The TWP has not yet reached a level where the final go-ahead with all its implications has been taken.

## **7. VESTED RIGHTS**

It is necessary to discuss the precise position or stage in the decision-making process that the TWP process has reached.

In paragraph 2.2 of the Background Document and Environmental Issues Report, four alternatives, to address the shortfall of water resources in the Vaal Catchment are mentioned. They are the reduction in the growth of the demand for water through appropriate demand management of water, the importation of water from neighbouring catchments such as the LHWP or the middle Orange River, the desalination of sea water and the mining of icebergs.

Other possibilities also exist and have from time to time been considered in strategic planning exercises, such as using tankers to ship fresh water from the mouth of the Zambezi, piping water from the Zambezi and moving agricultural activity to northern neighbouring countries.

The conclusion that was reached was that the most acceptable option was probably the importation of water from neighbouring catchments, one of which would be the Thukela Catchment, but that this needed to be looked at to a greater level of detail. (See 2.5 of the Background Document and Environmental Issues Report.) Lesotho Phase II was also a strong contender

The question that in all fairness could now be posed is whether this preference needs to be revisited. After all, it had been considered in some depth and an informed decision was made. Why reinvent the wheel?

Some background with regard to this aspect is appropriate. As a general rule, it must be accepted that once a right to do something has been vested, that right may be executed regardless of whether it could be a destructive right. With hindsight Thesen Island in the Knysna lagoon should not have been used for industrial purposes as it is now being used. A sand quarry (Eggo-Sand) should not have been permitted at the position where it is now halfway into the Magaliesberg Protected Natural Environment. The fact however is that when those activities were initiated, they complied with whatever legal requirements were applicable at that stage.

The same principle applies where the activity has not necessarily been undertaken but where the developmental rights have been vested. A developer got the right in principle to establish a residential township near the Brenton Hotel

above the Knysna lagoon. The implementation of this principle right would have destroyed the habitat of the Brenton blue butterfly. That developer was completely at liberty to continue with his development even if it did result in finally destroying the last available habitat for the Brenton blue butterfly. (The decision to stop that development in effect resulted in an expropriation of rights for the public benefit and, as is usual in all expropriation cases, the value of the resource lost to the developer had to be paid to him).

Whenever any developer, whether it is a private person or the government or whether it is a large or a small project that is undertaken, the first exercise should be to establish what rights have been vested. In the incremental decision-making process, if the principle right (also called a conceptual right) had vested, the next decision that needs to be made deals with the framework for implementation. If a framework of implementation had already been decided on finally, all that needs to be considered, is the detailed implementation of the project.

Theoretically speaking therefore, if, from a legal perspective, DWAF vested the right to transfer water from the Thukela to the Vaal Catchment, they need not revisit that aspect. The right in principle to utilise the Thukela as water source would have been established regardless of the fact that it might be the wrong decision in view of later legislation or later environmental thinking. This means that if an interested and affected party were to launch an application to the High Court to interdict or prohibit the DWAF from utilising the Thukela in general, such an application could be defeated on the strength that DWAF had vested that right.

Two aspects need now be considered. The one deals with the process of the vesting of rights and the other with the broader framework in which the State should consider vested rights.

## **7.1 The Vesting of Rights**

Rights vest when the appropriate legal requirements and formalities had been complied with.

Ownership as a right in a property owned by a person for example vests in another person if three requirements are met: There must firstly be a basis for the transfer of rights such as a Deed of Sale. Secondly, the thing (a car, house or whatever) sold must have been delivered by handing it over or, in the case of immovable property, by registration in the Deeds Office. Thirdly the purchase price must have been paid or arrangements must have been made for the payment of the purchase price.

A manner in which a property, that is not subject to any controls such as a planning or structure scheme, may be used, vests with the acquisition of property rights. Where the property is subject to a planning scheme, the right to use the property for a specific purpose is dependent on the zoning of that property. Usually when the owner of property wants to use the property for a purpose other than the zoned purpose, he must apply for a rezoning or a consent use. He must then comply with a series of formalities and comply with the other requirements laid down in the relevant legislation. Once the appropriate authority, acting in terms of its enabling legislation, formally signs the consent use or the rezoning

authority, it creates a new vested right.

Some reflection will reveal many more examples of how rights to use a thing vest. In certain cases the right to use water used to vest by virtue of the acquisition of riparian land. In many other cases it vested on the strength of a permit granted for that specific purpose.

Rights can vest at every stage of the incremental decision-making process. Thus the right in principle to mine vests if a Director: Mineral Development issues a mining authorisation in terms of section 9 of the Minerals Act. A property zoned agricultural or undetermined, if rezoned light Industrial, vests a right to use that property for light industrial purposes. Any conceptual authorisation that provides guidelines as to the spatial dimension of land can result in a right vesting to use property in a specific manner. The attitude of the developers of the Pecanwood Golf Estate on the banks of the Hartbeespoort dam is that, in its negotiations with DWAF, it acquired the right to establish peninsulas in the dam itself and to be of a length and width to allow residential erven to be established on them.

Building plans, detailed environmental management programmes and detailed plans and bills of quantities for structures such as dams and roads, are examples of detailed implementational plans that vest the moment that it is formally agreed to by the relevant authority.

Where private individuals apply to government authorities for permissions, it is usually fairly easy to establish whether a formal right had been given or not. It is usually reflected in some official permit, authority or letter. At times, such as in the Pecanwood development, it might not necessarily be specifically stated, but the correspondence over the years and the actions and interactions of all stakeholders including DWAF can be analysed to determine whether or not rights had vested.

The position whether organs of the State such as DWAF had vested rights to undertake projects is frequently less easy to establish. An organ of State such as DWAF may only do what its enabling legislation allows it to do. If the enabling legislation allows or authorises the building of structures related to water management, it is implied that a certain process should be followed to establish that right of use. In some cases legislation specifically sets out a process that must be followed before a right may vest. There could for example be a requirement that a proposal should be published for comment before it may be agreed to or must meet with the approval of some or other body. Where no formalities are laid down, the very least that would be required is that it should be shown that the official entitled to make that decision had considered all aspects relevant to this decision and had exercised his discretion in a proper manner. Although it is not an absolute precondition that the decision be reflected in writing, it would be particularly dangerous to rely on a decision that is not somewhere or other reduced to writing.

In short therefore, before an organ of State can rely on a right that had vested to undertake a certain activity, an investigation will have to be done to establish the enabling legislation relevant to the decision, the steps that should be taken in order to make such a decision and an evaluation of the steps actually taken to establish whether it had been done properly.

In this regard the position of the private individual is somewhat easier than the position of a government official in proving a vested right. Where a private individual had over time in negotiations with government officials, established a reasonable administrative expectation that the right will be given to him, he would be entitled to claim that right. For example, with regard to the Pecanwood development on the Hartbeestpoort Dam, the developer can base its claim on the fact that the DWAF, the developer and other role players had been acting throughout on an acceptance that permission to put up structures such as peninsulas would be granted. It could state that the only qualification of this right was that its establishment should not impact adversely on water quality and that an appropriate volume swop should be engineered to ensure that the carrying capacity of the dam is not decreased.

It may now appear from documentation that a permission in given circumstances had in fact been granted. (This would usually be so if a formal permission should be given such as is required for a river diversion.) If it appears however that such negotiations did take place but that an official written permission had not been granted, DWAF would not be entitled to change its mind and refuse the permission. The reason is that DWAF had created a reasonable expectation on the part of the developer that such permission would be granted. On the strength of this expectation and to the knowledge of DWAF the developer expended money, developed roads and executed activities. In such a case DWAF would be precluded from denying this right to the developer.

This position does not obtain with regard to an organ of State. An organ of State cannot create a reasonable administrative expectation to itself. If it had followed the required procedures, applied its mind to the question in hand, made a decision and reflected it in paper, the right vests. If not, the right did not vest.

## **7.2 The Implication of Rights that have been Vested**

In any developmental process the procedure should be to establish what the rights are that have been vested. Rights that have been vested become final and need not be revisited or reconsidered. The developer then can continue to apply for the rights that should be granted in the next stage of the incremental decision-making process. In 1900 a decision was made with regard to land near Fernwood, bordering on the Kirstenbosch Botanical Gardens on the slopes of Table Mountain in Cape Town. Let us accept that the application was to use agricultural land for residential purposes, that the right to use the land in principle for residential purposes had been granted properly and that the framework for the implementation of this right in principle, namely the positioning of the erven, roads, services, etc. was also agreed to. All that would still have been needed during 1900 before the detailed implementation of the conceptual rights, namely the building of houses, could commence was to acquire the approval of building plans for houses and the precise road building and other construction activities.

Let us further accept that over the past 99 years, the owner of the land never built a single property or sold a single erf. At this stage if the owner decides to sell the erven, he would be secure in both the principle and the broad implementational rights that have vested and of which it is the holder. Even if interest groups in such a case are of the opinion that the implementation of the rights would detract from Table Mountain, they have no right to prevent the

building of houses. If it is serious enough they may twist the arm of Government to expropriate that land in the public interest.

On the other hand however, the owners of erven would have to apply for the approval of building plans. These building plans would have to meet with the requirements of among others the National Environmental Management Act to the extent that it applies to building activities. In terms of section 7 of the National Building Regulations and Building Standards Act, 103 of 1977, a local authority if it is satisfied that a building will be erected in a manner that is unacceptable to the extent that the area will be disfigured, that it will be unsightly or objectionable, will derogate from the value of adjoining properties or will be dangerous to life or property, can refuse to allow such a building. This section may not deprive the owner of the property of his right to build a house. It may however force him to build a house in such a way that it avoids or minimises environmental degradation as far as is reasonably possible.

Theoretically therefore, it will be necessary for DWAF to establish precisely what rights had vested with regard to water augmentation to the Vaal Catchment. If the right to obtain the water from the Thukela Catchment had been vested, permission must still be obtained to extract the water from the position set out in the feasibility study. If the right to extract the water from that position had been obtained, it is only the detailed management and implementation of the project for which authority must be obtained. In view of the listing of activities in Schedule 1, Regulation 1182 [i.e. 1(i)(j)(k)(l) and 2(c) or (e)], the process that would have to be used will be Regulation 1183. The way in which the regulation would be applied of course will be adapted depending on the rights that have been vested.

### **7.3 The Implementation by the State of Vested Rights**

While it is legally acceptable for a private individual to continue with a project because a right to do so had vested regardless of the environmental impact that it might have, the position of the State is not so simple.

A private entity is free to pursue whatever activity it sees fit as long as it complies with the relevant legal requirements. There is for example nothing that stop citizens from organising their financial activities through the establishment of trusts, closed corporations or companies to substantially reduce the income tax that they should pay, as long as it is done within the constraints of the law. Similarly, individuals may not simply be prevented from implementing their environmental rights even if their implementation may be environmentally degrading. That would amount to selective taxation and interference with property rights. Compensation should be paid so that the burden of providing a benefit to the entire community by preventing this specific destructive activity, is paid by the entire community out of taxpayer funds. This could for example be done where the seriousness of the degradation warrants it, by the State expropriating the potentially degrading or destructive right that an individual might have to the benefit of the common good.

The actions of the State however must focus on the best interests of all its citizens. The State could and should consider the rights that it had vested at any stage in the past, whether one or a hundred years ago. A contemporary

evaluation could show that the detrimental effect to the entire community of implementing a right would be bigger than refraining from implementing it. The proper course of action would then be for the State to refrain from implementing that right. In effect the situation is similar to the example given above. In both cases the entire community sacrifices something in order to gain something of more value – in one case it pays out expropriation money and in the other it abandons an asset that could have brought in money. It is realised that the concept “best interests of all” is an inexact and widely worded concept. Difficult though it might be to apply, some attempt must be made to do so. If need be, an attempt could be made later to define the test more exactly. The real danger of course, is for the State not to consider the aspect at all if it should have been considered.

In considering whether or not a right should be abandoned, the State needs to weigh up the advantages and the disadvantages of a project based on the vested right. For this purpose whatever relevant aspect can influence this weighing up process should be pursued. Certainly the value of a riverine system that will be destroyed by a dam must be considered. So too must the assets that had been established in a partly implemented project be evaluated. The factors that should be evaluated in the process all depend on the specific circumstances. In general a vast spectrum of typical environmental considerations must nowadays be evaluated that a few years ago was unknown or not applicable. The SAVE/Sasol case for example has made it incumbent that the ‘sense of place’ of an area due for development should be considered.

#### **7.4 Can the State be Forced to Re-evaluate a Vested Right?**

Prior to 1993, the answer to this question would have been an unequivocal no. What was said in the previous paragraph reflects the almost abstract constitutional duty that a government has to always consider whether its actions meet with the needs of the best interests of the people. This is an age-old constitutional duty. Governments however could only be called to account for their administrative decisions in a normal course of the democratic process where a five-yearly general election could theoretically confirm or set aside an administrative decision that had been made. In effect therefore governments did pretty much what they thought appropriate. They did not have to consider something they did not feel like considering.

The penalty, that of being voted out of office, is at the best of times a highly theoretical remedy. The result was that administrative decisions by organs of State could in the past never be effectively questioned on the merits. If a Prime Minister stated that he had considered the implications of the implementation of the demolition of the western facade of Church Square in Pretoria and that it is a good thing, there was no court in the world that could interfere with that decision.

This position however changed drastically with the promulgation of the interim Constitution followed by the 1996 Constitution. In terms of section 33(1) of the new Constitution “everyone has the right to administrative action that is lawful, reasonable and procedurally fair”. Administrative actions always had to be lawful and always had to comply with the procedures laid down. For example, the *audi alterem partem* rule requires that an official should hear all parties that may be affected by a decision before making a decision. Decisions of our courts

indicated that these duties have become wider, more general and more pervasive. Consider also how the entire process of decision-making had changed to accommodate this paradigm change.

It did not however effect a major change. It is the inclusion of the word "*reasonable*" that did bring about a dramatic change. The mere fact that an action must be reasonable requires that it can be tested against the tenets of reasonableness. As pointed out in the book *Environmental Law for All*, our courts will have to set out precisely what should be understood by reasonableness and what the actions are that should be taken to ensure that a decision is reasonable. This does not however detract from the fact that the Constitution requires that an administrative decision must reflect that a reasoned process had been followed in order to arrive at it. What is more, is that the official that took the decision can be required to explain and justify the trend of reasoning followed. This means that he or she will have to defend the decision on the merits thereof. Previously it happened only rarely that an official had to defend the merits of the decision. Such official was entitled to say that the court should not look over its shoulder in order to evaluate whether it was a good or bad decision. As long as the official met with all the legal technical requirements, his decision stood. The inclusion into our legislation of the requirement that administrative decisions must be reasonable has established a remarkably important requirement that organs of State must comply with.

Accept hypothetically that the right to obtain water from the Thukela Catchment rather than from the sea or icebergs vested when an appropriate decision was taken in 1996. In 2002 a further decision is taken to implement the TWP. Implicit in this decision is the decision that the previous decisions that had been taken namely to transfer water to the Vaal Catchment and to obtain such water out of the Thukela Catchment is reaffirmed. This does not of course mean the taking of a conscious administrative decision regarding these two aspects. The decisions had been taken earlier in 1996 and before. It is rather a failure to revisit the 1996 decisions. It is now conceivable that an interested and affected party might approach the court for an order setting aside or suspending the decision to implement the site specific TWP pending a re-evaluation of the decision in principle. If this applicant would be able to show that the failure to revisit that decision in effect amounted to an unreasonable administrative action, the court would be bound to grant his application.

I do not know to which extent the decisions taken in the past would meet with the requirements in present legislation. I do not think it is necessary to find out. Decisions taken in the past must be measured against the requirements that existed at the time the decision was taken. The position is different however if future decisions are taken. Part of the future decision could include a re-evaluation of the validity of a previous decision. This will be recognised as a typical management approach used by managers in all spheres. In the course of an ongoing project, especially if some time had lapsed between different phases of the project, the responsible thing to do would be to revisit the previous decision just to make sure that the process has not lost its validity. (After all, a businessman that is developing a new project will be irresponsible if he does not from time to time update himself on the marketability of his product.)

## 8. THE NEED TO ANTICIPATE COMPLICATIONS THAT COULD ARISE FROM LEGAL ACTION BASED ON ENVIRONMENTAL LEGAL REQUIREMENTS

It is realised that a rather sombre picture has emerged from what is said above. The impression is created of a lack of any certainty with regard to future planning and that citizen action might lead to the frustration of well-considered and carefully planned projects.

This is not the case. The key to dealing with this threat is the same as the key to dealing` with threats caused by technical problems. It is the simple key of reasonableness. If any stakeholder at any stage of any process should approach a court for an order that might impact on the project, it will be required of such a stakeholder to show a want of reasonableness. Reasonableness furthermore would not require compliance with a myriad of detail and particulars. It will require a comprehensive evaluation where the full spectrum of aspects that should have been considered was in fact considered. Furthermore it is accepted that it will not be feasible and therefore reasonable to expect of an organ of State to go into more detail than is necessary to make a reasonable well-informed management decision. The protection that an organ of State therefore can build into its decision-making processes is to consider everything that should be considered AND ARE INDEED ABLE TO SHOW A PAPER TRAIL FOR IT, such as in Records of Decision and other documents. It is not enough for an official, twenty years down the line, to assume that his predecessors did their work properly. He should be provided with the documentation that enables him to show conclusively what had been done.

### 8.1 The Role of the Public

A party that could be adversely affected by any decision of the State have always had the right in terms of the *audi alterem partem* rule to be heard before a decision is made. This general principle however was fairly restricted in practice. A party that wished to rely on the right to be heard would have had to have a legal interest. This excluded many people that felt themselves to be affected or threatened by a project. Over the past few years with the extensive widening of the *locus standi* in our Constitution and now also in NEMA, the ranks of the number of people that may have to be heard was extended substantially. A broad change in administrative law furthermore brought about a change in the extent to which this right to be heard was interpreted. This right had been supported substantially by legislation. The first legislative enactment that firmly established this as a wide-ranging right, was the general environmental policy determined in terms of the Environment Conservation Act on 21 January 1994. Any decisions made subsequent to January 1994 should preferably show adequate public involvement. The decision in the SAVE/SASOL matter specifically instructs officials not only to broaden their approach to the involvement of the public. It also requires of them to change the paradigm in which they are thinking. Future decisions will have to be made only after the public have been involved adequately.

DWAF is therefore faced with two problems. The first problem is whether decisions taken after January 1994 involved the public adequately. The second problem is whether everything was taken into consideration that should have been taken into consideration and whether the decisions made were reasonable

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under the circumstances.

## 8.2 How to Validate or Deal with Previous Decisions

Three approaches could be considered.

### 8.2.1 First approach

The first approach is to analyse decisions that have been taken and the circumstances under which they were taken carefully in order to see whether they meet with the appropriate requirements. I am aware thereof that DWAF had for decades now been very sensitive to many environmental issues that were then not regarded as important at all. It is probable that an evaluation of decisions taken will reveal that by and large, DWAF did what they had to do. With regard to public involvement, it has also been the policy of DWAF to workshop and discuss ideas and concepts widely. It is a process that might perhaps not be typical of contemporary public participation exercises but I would not let that upset me. In my opinion most of the contemporary public participation exercises amount to little more than circuses that, if judged on the noise and hot air they create, go well beyond what is required of them. If considered against the value it added to the project, the performance is less impressive.

### 8.2.2 The second approach

The second approach is to ignore the existing decisions and to initiate an entirely new process that effectively involves the public and that starts right at the beginning where a decision needs to be made as to whether augmentation should take place at all and if so where the water should be sourced from. While this is a valid approach and might well, after the investigation of relevant aspects have to be resorted to, the approach that should be considered favourably is the third one.

### 8.2.3 The third approach

The third approach accepts that decisions had been made but that if good reason is shown, such decisions will be revisited. I have found that the most successful way of dealing with such a situation is to prepare a Briefing Document. This Briefing Document sets out the background to any decisions taken, the *status quo* as to decisions and the way forward. Where the developer had decided not to revisit any previous issues, that fact is stated. What is provided to the reader however is an extensive array of information that would enable every member of the public to evaluate the decision. The invitation is then also extended to such members of the public to discuss decisions with the developer and to inform such a person that if he feels that a decision does not meet with the appropriate requirements, a court action can be launched to have it set aside.

The developer, which in this case would be DWAF, could also state in the Briefing Document that the decisions that have been reached, were reached on information then available. It can then mention its preparedness to reconsider a decision that had been reached if any further information should justify such a revisiting. This provides an opportunity to any member of the public to acquaint

itself with the full decision-making process that has been followed. It does not automatically throw out all the good work that has been done. It however provides an opportunity for any interested and affected party to consider the entire decision-making process that has been followed and to focus the attention of DWAF on any aspect that has not been considered. This enables DWAF then to consider this aspect, bring it into the decision-making framework and, where appropriate, change their decisions.

The main advantage of following this procedure is that it is the closest to providing a guarantee that court action will not prevent the implementation of whatever option had been decided upon. Such an action of DWAF would be eminently reasonable. A member of the public, given the opportunity of closely checking, as it were, on the decision-making process followed by DWAF, can identify gaps in the process and can then at an early stage and in the spirit of proper planning take steps to ensure that the gaps are dealt with. Where such an opportunity had been given to such a party, he will effectively be precluded from raising such issues a few years down the line.

At the same time, to the extent that an argument could be raised that a decision taken in 1996 was taken without the proper involvement of the public, the decision is now protected inasmuch as any failure to involve the public at that stage, is addressed by inviting the involvement of the public at this stage to rectify such a decision if it should be necessary. Furthermore any aspect that should have been considered and was not considered can now be identified and dealt with adequately. To the extent that new developments and new technology or new research with regard to an aspect such as HIV-AIDS, could be brought to the attention of DWAF. This could make the decision-making process less problematic and easier for DWAF. Care should however be taken to structure this process in such a way that a document can be produced that will form a conclusive answer to any court action launched at a later stage.

### **8.3 Preparing the Basis for Further Investigations**

The files of DWAF containing the deliberations that led to the decision, the documentation reflecting the decision and the research on which it was based must be investigated. For that purpose the assistance would be needed of the officials that were specifically involved in it as well as the legal officials that assisted in that regard.

The purpose of this investigation is to establish precisely what the decisions are that had been taken and the basis thereof.

## **9. THE SECOND COMPONENT OF THE TERMS OF REFERENCE – THE INSTRUCTION TO ANALYSE THE LAW AND ITS APPLICATION**

In the first part of the Report an attempt was made to set out the legal framework for the policy and decision-making process in which the TWP decision should be seen. This is the first component of the instructions quoted in the Introduction, paragraph 1 above.

The second component of the instructions is that the “*requirements*,

*characteristics and implications for the TWP, of generally applicable environmental law principles, and specific legislation such as the Constitution, the National Water Act, NEMA and other related statutes*” should be considered. In addition, the instructions are amplified and explained in 7 further points, dealing with specific aspects.

In addressing the second part of the instructions, the purpose of this part of the Report is two-fold. It will firstly list all the specific legal requirements and will discuss them in order to clarify the aspects that should be considered.

It will secondly analyse and answer the questions posed in sections 7.2.1, 7.2.2 and 7.2.3 of the Background Document. The answers will then be discussed and where necessary explained against the background of and with reference to the detailed legal analysis.

## **10. THE APPLICABLE SPECIFIC LEGAL REQUIREMENTS**

In this section, the relevant sections will be quoted and explained in order to convey its essential meaning.

### **10.1 Constitution of the Republic of South Africa Act, 108 of 1996**

In addition to the sections in the Constitution that are of particular importance to the environment and to the decision-making process that the TWP will entail, there are also several sections that are of passing importance to the TWP. Thus, in Chapter 10, sections 195 to 197 the duties of DWAF regarding public administration generally, are set out. In section 195(1)(g) it is for example stated that *“transparency must be fostered by providing the public with timely, accessible and accurate information”*. For the purpose of this Report however, it is only necessary to focus on the Bill of Rights contained in Chapter 2. Important sections are the following:

#### **10.1.1 Section 24 , dealing with the environment reads as follows:**

*“Everyone has the right –*

- (a) to an environment that is not harmful to their health or well-being; and*
- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –*
  - (i) prevent pollution and ecological degradation;*
  - (ii) promote conservation; and*
  - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.*

#### **Comment:**

The section has two focuses. It establishes a right for the public (in s24(a)) and places a duty on the State to take certain actions (in s24(b)).

S24(b) is not clear as the extent of the duty that a State organisation such as DWAF has. The question that arises is whether DWAF can be forced to take

action, and if so under what circumstances and how extensive can this action be? What is clear, is that where a department such as DWAF has in fact undertaken actions, the actions would have to meet with the requirements in s24(b). It must therefore take reasonable measures to avoid the ecological degradation, to promote conservation and to secure the sustainable development of a sensitive area in which a dam is built. This does not mean that no dam may be built. It certainly means that failure to consider this aspect in some depth would not be reasonable. Reasonable action, on the principle or policy level, could include the revisiting of options such as desalinisation. Reasonable action on the regional level, where the broad framework for implementation is considered, could include confirming the extraction of water out of the Thukela River but revisiting the decision to build the main dam in it. On revisiting the decision it could *hypothetically and by way of an example* be shown that major ecological degradation could be avoided by building a large storage dam in a less sensitive nearby valley. Studies may show that it will cause substantially less degradation. The water can then be transferred out of a weir in the Thukela to the storage dam. The instructions in s24(b)(ii) and (iii) will have the same effect of forcing DWAF to consider these actions properly.

10.1.2 Section 25 deals with property. The relevant part reads:

- (1) *No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property. ...*
- (4) *For the purposes of this section - ...*  
*(b) property is not limited to land”.*

**Comment:**

The deprivation of property can also take place by ‘taking’ or removing those components of the property that adds value to it. Thus the taking of water or even slightly more indirectly, the removal of a certain level of flow in a river such as the Thukela might result in the devaluation of properties that relied on that quantity of water or that based its activities (such as recreational activities) on a certain level of water. (Note that factors such as the level of water in a river does not necessarily vest rights – it will depend on the circumstances.) A law of general application, as is also specifically mentioned in s25(2), deals with expropriation. It is a factor that should be investigated and that could add to the cost of establishing a structure such as a dam that could impact on such values.

10.1.3 Section 33 deals with just administrative action. The relevant part reads as follows:

- “(1) *Everyone has the right to administrative action that is lawful, reasonable and procedurally fair.”*

**Comment:**

The key word here is “reasonable”. Action always had to be lawful and procedurally fair. It is correct that our courts have given a wider meaning to this requirement. Thus, in the case of *Van Huysteen and others NNO v Minister of Environmental Affairs and Tourism and others*, 1996(1) SA 283 (C) at 284E it is stated that these words “*must be generously interpreted and the austerity of*

*tabulated legalism must be avoided*". The test for how wide the discretion of officials in administrative action is, is also mentioned in the SAVE/Sasol case. It is wider than it used to be.

The inclusion of the word "*reasonable*", as discussed above adds a completely new dimension. An official can now be called upon to explain to a court why, on the merits of the matter, the decision was taken or a certain course of action was undertaken. His action must therefore demonstrably meet with the requirements of reason. This is the main reason why attention is consistently focused on the need to act reasonably. The aspects in this regard, regarding for example the revisiting of certain decisions made, are discussed in some detail above.

#### 10.1.4 Section 38 deals with the reinforcement of rights:

It is not necessary to quote out of this section. It in effect gives *locus standi* to so many people that even a meddling outsider can launch an application to interdict building activities.

#### 10.1.5 Section 39 deals with the interpretation of the Bill of Rights. The relevant part of the section reads as follows:

*When interpreting the Bill of Rights, a court, tribunal or forum –*

*(b) must consider international law; and*

*(c) may consider foreign law.*

#### **Comment:**

In terms of this section it is accepted that in the interaction between South Africa and the rest of the world, a closer identification of interests between different countries is inevitable. The march of globalisation also makes it inevitable that our legal principles should be interpreted where possible to accord with international interpretations.

A study was prepared by Turton A.R. and Meissner R., *Thukela Water Project Feasibility Study: Strategic Impact Assessment of the Hydropolitical Aspects*. In paragraphs 3.5, 3.11 and 3.12, reference is made to "*the activity within the international water sector*" (3.11.1). Such references should not merely be seen as being of interest or as factors that for strategic purposes should be borne in mind. Section 39 requires of DWAF to consider it. It is correct that activities such as the formulation of a World Water Vision may not yet be part of international or foreign law. Knowing the thrust of the development of the process of law however, it is inevitable that some of these deliberations will in time (and probably sooner than later) find its way into the legal structures of other countries. It will be prudent therefore to act pro-actively in considering these developmental thrusts.

## 10.2 Development Facilitation Act, 67 of 1995

The act is quoted as its "*General principles for land development*" contained in section 3 is important. The other more detailed planning-related aspects will play a less important role in this Report but will of course be important where the detailed planning of the project is addressed.

It is important to study the entire section 3. It will convey the thinking and mindset of the legislator when dealing with development. In addition to some of the sections that I will quote, there are for example sections dealing with the promotion of the combination of compatible land uses (1)(c)(v), the active participation of IAP's (1)(d), the development of the skills and capacities of disadvantaged persons (1)(e), and several others. A reading of section 3 will illustrate how the "*change in the ideological climate*" (referred to in the Save/Sasol case) has taken place and what its shape is.

10.2.1 Section 3(1)(j) reads as follows:

*"(j) Each proposed land development area should be judged on its own merits and no particular use of land, such as residential, commercial, conservational, industrial, community facility, mining, agricultural or public use, should in advance or in general be regarded as being less important or desirable than any other use of land".*

**Comment:**

In essence this section requires of developers, such as DWAF, to consider the merits of the proposed project. The merits of providing water and providing it out of the Thukela is fairly obvious. It cannot be regarded in isolation however. It must be considered in contrast to the demerits of using this source and the merits of using another source or the merits of extracting the water in another manner. It is only then that the value of the resource, the Thukela River, can be adequately judged.

10.2.2 Section 3(1)(h) reads as follows:

*"(h) Policy, administrative practice and laws should promote sustainable land development ..."*

**Comment:**

This subsection has five subsub-sections that refer for example to the promotion of the establishment of viable communities, the sustained protection of the environment, etc. It spells out the need for sustainability in development with all the implications that it has. It therefore supports and strengthens the sections in the National Water Act and NEMA that requires that development should be sustainable. Sustainable development will be discussed in more detail below.

### 10.3 National Water Act, 36 of 1998

10.3.1 Section 2 sets out the purpose of the act. The relevant parts read as follows:

*"2. The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors –*

- (a) meeting the basic human needs of present and future generations; ...*
- (d) promoting the efficient, sustainable and beneficial use of water in the public interest;*
- (e) facilitating social and economic development;*

- (f) *providing for growing demand for water use;*
- (g) *protecting aquatic and associated ecosystems and their biological diversity; ...*
- (i) *meeting international obligations;”*

**Comment:**

The section does not only provide the broad enabling framework for water management. It also focuses on some specific aspects. Questions regarding the TWP that must be answered to meet the requirements of the section are the following:

Will water extraction out of the Thukela impact on water needs of future generations of people using water from the Thukela?

Can it be shown to a court at a later stage that DWAF had taken adequate steps to ensure responsible water saving practices in the Vaal Catchment, given the requirement in (d)?

Is it an acceptable way of providing for a future growing demand for water by shifting it from one part of the country to another or should other resources be looked at?

It must be realised that a requirement such as in (i) does not mean that reports of international water organisations referred to by Turton & Meissner in §3.11, should be slavishly followed. Neither should a requirement such as (g) mean that no dams may be built.

What is important is that each of these aspects must be considered carefully, a reasoned decision on the merits regarding the aspects be reached and a paper trail for the decisions shown.

10.3.2 Sections 5, 6 and 7 deal with the establishment of a National Water Resource Strategy (NWR Strategy). (Also see section 22.) Relevant parts of these sections read as follows:

- “5. (1) *... the Minister must, as soon as reasonably practicable, by notice in the Gazette, establish a national water resource strategy. ...*
- (3) *The water resources of the Republic must be protected, used, developed, conserved, managed and controlled in accordance with the national water resource strategy.*
6. (1) *The national water resource strategy must, ...*
- (a) *set out the strategies, objectives, plans, guidelines and procedures of the Minister and institutional arrangements relating to the protection, use, development, conservation, management and control of water resources within the framework of existing relevant government policy ...*
- (b) *provide for at least –*
- (i) *the requirements of the Reserve and identify, where appropriate, water resources from which particular requirements must be met; ...*
  - (iii) *actions to be taken to meet projected future water needs; and*
  - (iv) *water use of strategic importance; ...”*

22. (5) *A responsible authority may, subject to section 17, authorise the use of water before –*
- (a) *a national water resource strategy has been established;*
  - (b) *a catchment management strategy in respect of the water resource in question has been established;*
  - (c) *a classification system for water resources has been established;*
  - (d) *the class and resource quality objectives for the water resource in question have been determined; or*
  - (e) *the Reserve for the water resource in question has been finally determined.*

The definition of water use in section 21 includes activities incidental to a TWP decision such as the taking of water from a water resource, the storing of water or the altering of the bed, banks, course or characteristics of a water course.

**Comment:**

The sections are particularly important. As also appears from what had been stated above, the general thrust of all environmental legislation increasingly focuses on the establishment of general environmental management systems. Piecemeal control over environmental resources is not acceptable any more.

The focus on a properly staged or phased management system is clearly apparent in the sections. They accept that our water resources will have to be managed in accordance with a properly planned strategy. Similar requirements in the Development Facilitation Act were referred to in passing above and will also be dealt with in an analysis of NEMA below. It forms part and parcel therefore of an overarching general structured approach.

It states, as does much other legislation, that any use of our water resources must take place within the constraints of a management strategy. The legislator regarded this as urgent. The timeframe for the establishment of this strategy is fairly tight. It must be established as soon as reasonably practicable. It is not required for government to do a national strategy immediately. In terms of section 5(4)(a), it “may be established in a phased and progressive manner and in separate components over time ...”. Some idea of the timeframe that the legislator had in mind however is the requirement in section 5(4)(b) that it must be reviewed within five years. It can therefore be expected that at least the important parts of the programme must be in place in a period less than five years.

It is also required in section 5(5) that the public should be involved in the development of the strategy. Dealing with water resources in the Thukela is a major water management focus in this country. The strategy specifically requires in section 6(1)(g) that provision should be made “for inter-catchment water transfers between surplus water management areas and deficit water management areas ...”. There are other pointers in section 6(1) that equally underline the particular importance that DWAF as a matter of urgency addresses the management of the water in the Thukela River.

The question that must now be answered is whether a decision should be made by DWAF to continue with the TWP before such a national strategy regarding the Thukela had been established.

Section 22(5) clearly authorises such a decision. The question therefore is not whether it is legally possible or not. The question is rather whether reliance should in this case be placed on this authorisation. In other words, given the particular circumstances in this case, would it be a reasonable administrative action to make a decision regarding the continuation of the TWP in the absence of a NWR Strategy?

Generally speaking, one cannot delay decisions simply because some or other scheme or policy had not been put in place. This is the most effective way of subjecting a process to innovative procrastination thereby making sure that no decision is ever made. Decisions must be made on the information available or such further information generated or gathered that is necessary for the making of the specific decision that serves before the decision-maker.

In general therefore, it must be accepted that implementational decisions must be made by DWAF regardless of whether a NWR Strategy had been put in place and regardless of whether a reserve had been established or not. I do not therefore regard it to be essential that a formal NWR Strategy is in place before a decision can be made with regard to the use of the water in the Thukela Catchment.

My problem lies with a different question altogether. It deals with the information that should be generated to support a decision on the use of the Thukela Catchment regardless of the requirement for the establishment of a strategic study.

In preparing an NWR Strategy, wide-ranging research will have to be done and a strategy developed in a carefully structured process. The questions posed in section 6 will have to be answered and the structure of the process will have to comply with the requirements in the Act. In contrast, in order to prepare the ground for the making of a focused decision regarding the TWP, a certain minimum "quantity" of information is required to ensure that the decision is acceptable, valid, informed and credible. Is the information required for the TWP and for an NWR Strategy not virtually identical?

In my opinion the answer is 'yes'. The answer is 'yes' not because a NWR Strategy must be prepared. It is 'yes' for another reason, namely that it is required by the thrust of management directed decision-making and the general legal framework in which the TWP decision should be placed. The legal framework is reflected in the trend of the National Water Act in general and sections 5, 6, 7 in particular. This is however only the tip of the iceberg. It is also required in other sections of the National Water Act and in other legislation that has precisely the same thrust.

In summary therefore, it is in my view not necessary to get the NWR Strategy in place. A similar exercise of information collection and policy determination however must be undertaken. Such action is required by a broad legislative thrust that establishes a certain definitive approach to such important decisions. Failure to act within the spirit of the thrust, would not amount to reasonable administrative action.

It is of particular importance to realise that the investigation that should be

undertaken under this heading must have a *national* focus. It correlates therefore with the focus in paragraph 7.1.1 and 7.2.1 in the Background Document.

10.3.3 Sections 8, 9, 10 and 11 deal with the establishment of catchment management strategies (CM strategies). Relevant parts of the sections read as follows:

*“8. (1) A catchment management agency contemplated in Chapter 7 must, ... establish a catchment management strategy for the protection, use, development, conservation, management and control of water resources within its water management area.”*

**Comment:**

Where the NWR Strategy sets out a national strategy, the CM strategy focuses on the establishment of a strategy on a regional/local level. It is not important now to consider how large such a catchment may be. A fairly wide discretion is granted in establishing a water management area (defined in section 1(1)(xxv)). It can be accepted that the Thukela Catchment may be one water management area or could fall into more than one such an area. The requirement is that a catchment management agency (CM agency) must establish the CM strategy. A CM agency must therefore be established in accordance with the requirements in sections 77 to 80 of the Act before a strategy could be established. (This is of course subject to the authorisation in section 72 that vests the powers and duties of CM agencies in the Minister if a CM agency had not yet been established. The pertinent question would again be whether it would be reasonable under the circumstances to rely on this authority.)

The comments made in 10.3.2 above are applicable here. If the attitude is taken that the formal requirements in the Act must be in place before a decision regarding the TWP may be taken, it means that it is not only that a NWR Strategy must be established. A final demarcation of the water management area affected by the decision must also be in place. A CM agency must be established after the time-consuming procedure set out in section 78 is followed. Only then can the equally time-consuming process laid down in section 8 be followed to establish a CM strategy. If one accepts that a NWR Strategy must be established before a decision regarding the TWP can be reached, one must also accept the need for the establishment of first an NW agency and subsequently an NW strategy. This time-consuming procedure underlines the unworkability of such an approach.

On the other hand, it reinforces the need to consider a TWP decision strategically. Again the legislator makes it clear that the correct point of departure for an administrative decision such as for the TWP is that a carefully structured process should be followed. On considering section 9, dealing with the contents of a CM strategy, the same carefully planned well-managed approach is apparent. The way in which the regional planning should slot into the national planning is specifically indicated in section 9(b) that states that it may not be in conflict with the NWR Strategy.

In summary therefore, it is in my view not necessary to get the CM agency or the CM strategy in place before deciding on the TWP. A very similar exercise however must be undertaken in continuance of the process referred to in 10.3.2 above. Note here that, as in 10.3.2 above, the focus will be on a carefully structured process that addresses a wide variety of technical issues and that in

the process involves the public in an effective interactive manner.

The main difference between both this exercise and the generation of a CM strategy is the same as the difference between the suggested exercise in 10.3.2 on the one hand and the generation of a NWR Strategy. This is that the focus is different and the questions that will have to be answered will be different. Among others, it will be far more specific in order to answer a well-defined specific question. The procedure followed will be different and the research required will be different in that it will probably be narrower, restricted and more focused. The answers must be provided in a much shorter timeframe. (The work done in this regard would obviously be of value if and when an NWR Strategy or CM strategy is established).

It is of importance to realise that the investigation that should be undertaken under this heading must have a *regional* focus. It correlates therefore with the focus in paragraph 7.1.2 and 7.2.2 of the Background Document.

10.3.4 Sections 12, 13, 14 and 15 deal with the classification of the nation's water resources as a basis for its protection. The relevant part of section 12 reads as follows:

12. (1) *As soon as is reasonably practicable, the Minister must prescribe a system for classifying water resources.*

**Comment:**

The management focus in this section, to establish clear goals relating to the quality of the relevant water resources, is obvious. The comments made in 10.3.2 and 10.3.3. above regarding the time-consuming nature of establishing detailed implementational steps are certainly appropriate here as well. That the detailed implementational focus of this section should however form part of the research and planning for the TWP, is equally obvious. This is less of a novelty in the sense that the DWAF has been applying these sort of guidelines also with respect to environmental impacts for many years.

It is to be noted that this investigation will have a *site specific* focus and will therefore correlate with the focus in paragraph 7.1.3 and 7.2.3 in the Background Document where it will form one part of the total investigation that would have to be undertaken at this level.

10.3.5 Sections 16, 17 and 18 deal with the Reserve. The relevant part of these sections reads as follows:

“16. (1) *As soon as reasonably practicable after the class of all or part of a water resource has been determined, the Minister must, ... determine the Reserve for all or part of that water resource. ....*

17.(1) *Until a system for classifying water resources has been prescribed or a class of a water resources has been determined, the Minister –*  
 (a) *may, for all or part of a water resource; and*  
 (b) *must, before authorising the use of water under section 22(5), make a preliminary determination of the Reserve.”*

The definition of the word “Reserve” is in section 1(1)(xviii) and need not be

quoted here.

**Comment:**

Logically speaking, the determination of the Reserve if it were to be done strictly in accordance with the Act, would require that a classification system for water resources in accordance with section 12 must first be in place. Again the argument holds good that a decision regarding the TWP may not be delayed until such structures are formally in place.

Again however a substantial amount of research will have to be done to provide answers to the questions that the determination of a Reserve will in any case require. There are again two focuses. The one is the focus where the Reserve must be established. The other focus is what the quantity of water is that the TWP may extract. To meet with the requirements of the first focus, the Reserve must definitively lay down the minimum quantity of water necessary to sustain basic human and ecosystem needs. To meet with the requirements of the second focus, it will not be necessary to determine the Reserve. All that will be required is an answer to the question whether the water extracted from the Thukela will dip into the Reserve or not. The investigation must be based on the quantity of water that will be extracted.

It can be accepted that a TWP decision may not prejudice the quantity of water in a Reserve. In other words, the TWP may not be agreed to until it is clear that after the water had been extracted, there will still be enough water to make up the Reserve.

The requirements in the Act regarding a Reserve are of crucial importance. They establish a basic and non-negotiable quantity of water that must be made available. As a logical possibility, it must be accepted that a TWP decision could remove some of the water necessary for the Reserve in the Thukela and transfer it to the Vaal Catchment. It is to avoid such an eventuality that an investigation will first have to be done to establish that a TWP decision will not prejudice the establishment and maintenance of a Reserve for the Thukela.

This does not of course require the establishment of the precise Reserve for the Thukela. It needs a broader and a less demanding exercise. Using broad parameters, the "worst case scenario" with regard to a Reserve could be established.

If the TWP will extract less water than the generous assessment of the maximum potential level for a Reserve, the process of planning the detailed implementation of the project could continue. If the study shows that the planned water extraction in accordance with the TWP decision will reduce the generous 'provisional' determination of what the Reserve could be, further detailed research would be necessary. Research would continue until it is clear that the extraction water will not reduce the Reserve, as it will be finally determined. If in the end the Reserve is still shown to be bigger than the quantity of water that could be extracted to make the TWP project viable, the TWP will have to be cancelled.

The authorisation given in section 17 to make a preliminary determination of the Reserve, is at once the authority to determine a figure that can ensure that the later establishment of a formal Reserve is not prejudiced and also an indication that the legislator would require under such circumstances that consideration be

given to the needs of the Reserve, thereby ensuring that the full Reserve is not prejudiced. Thus a determination of a very crude approximation of the worst case scenario of the Reserve could be described as a preliminary determination of the Reserve of the Thukela River for the purposes of validating an extraction of water from the Thukela River for TWP purposes.

#### 10.3.5 Sections dealing with the impact on the Thukela , a river of major importance

The restrictions or guidelines in the Act regarding impacts on an important river must be investigated. The Act does not contain any specific or dedicated chapter or section dealing with river management or protection in the way that pollution prevention is dealt with in, section 19 or the placing strategy for water use charges in Chapter 5. Measures relating to the protection and management of rivers are found throughout the Act. Some attention should be given to it. The relevant parts of the sections that should be considered in this regard are as follows:

Section 19 deals with pollution prevention.

Section 20 deals with the control of emergency incidents.

- “26. (1) Subject to sub-section (4), the Minister may make regulations - ...*
- (g) regulating or prohibiting any activity in order to protect a water resource or instream or riparian habitat; ...*
  - (4) When making regulations, the Minister must take into account all relevant considerations, including the need to – ...*
  - (b) conserve and protect water resources or, instream and riparian habitat;*
- 27. (1) In issuing a general authorisation or licence, a responsible authority must take into account all relevant factors, including - ...*
- (c) efficient and beneficial use of water in the public interest;*

This random selection of the more typically environmental sections, is quoted to illustrate how the detailed use of water which to a large extent would apply to site specific aspects referred to in 7.1.3 and 7.2.3 in the Background Document, joins up with the national and regional perspectives dealt with above. In addition to any other focus that the Act may have, a healthy respect for the value and functions of water courses is shown. The importance to protect the integrity of any water resource such as the Thukela River, forms a recurring theme throughout. It does not mean that intervention into a water resource is of course prohibited. Where necessary dams must be built, water courses channelised or water courses used in whatever manner is indicated. It does mean that care must be taken to investigate the impacts of such actions closely before such actions are undertaken.

It would be necessary and in any case wise to establish some value of the water course that could be adversely affected by a TWP decision. As will be seen below, it must be done in any case in terms of other legislation. The focal point here however, is slightly different. Investigations were done into the need for water in the Vaal Catchment area. Several other issues had also become focal points. This scope of investigations would be incomplete if it does not include a focus on the value of the Thukela River and its related components such as

ecosystems, sponges, geological structures and all those other aspects that finally determine the value of a river purely as a river. This investigation must be given the prominence that it deserves and must take its place as one of the several considerations that form the basis of the decisions that must be taken with regard to the TWP matter.

10.3.6 Chapter 11 , including sections 109 to 116 deals with government waterworks. The relevant sections read as follows:

*“109. The Minister may acquire, construct, alter, repair, operate or control government waterworks in order to protect, use, develop, conserve, manage and control the nation’s water resources in the public interest.”*

*110. (1) Before constructing a waterwork, the Minister must –  
 (a) prepare an environmental impact assessment relating to the proposed waterwork which must, where the Minister considers it appropriate, comply with the requirements contained in regulations made under section 26 of the Environment Conservation Act, 1989 (Act No. 73 of 1989);”*

**Comment:**

Subject to what is said at the end of this paragraph, the sections specifically import a procedure of another Act into the decision-making process of the National Water Act. It does not appear as if this section specifically places the duty on DWAF to investigate the principle of whether a waterworks should be established or not. It accepts that such a decision in principle had already been obtained. In contrast to for example section 2 dealing with the purpose of the Act and Chapter 2 dealing with water management strategies, this section does not focus on the national or policy level of decision-making. It does place certain duties on DWAF with regard to more typical regional-level issues.

If the last part of section 109, starting with the words “in order to protect” had been left out, the requirements of section 110 and others would have been restricted to ensuring that the actual construction of a dam, or the site specific detailed implementation of a dam building decision, must be preceded by an environmental impact assessment. By including the second part of section 109, a wider duty is implied. The need to protect or conserve the nation’s water resources implies that a decision for the construction of waterworks can only be taken after several sites and several approaches had been considered.

This interpretation ties up with the specific instructions and also the general thrust contained in NEMA. It also rounds off the series of measures listed and discussed in 10.3.6 above. It would not be adequate therefore, if the Jana or Mielietuin Dams are decided upon unless and until the acceptability of the site itself had been tested against guidelines that include the protection and conservation of water resources.

The importation of the procedure of another Act, the Environment Conservation Act (ECA), into this Act gives rise to an unexpected complication. Before any construction activities in pursuance of a TWP decision is commenced, an R1183 process would have to be executed if regard is had to the Environment Conservation Act, 73 of 1989. (See an explanation of the law relating to the ECA and Regulation 1183 in 10.5.2 below.) Section 110 of the Act however, has a

requirement that on a cursory reading looks similar but is in conflict. In accordance with section 110 of the Act, the use of the ECA and therefore of R1183 is only required “where the Minister considers it appropriate”.

What is clear is that an environmental impact assessment must be prepared regardless of whether the procedure in R1183 is used or not. (In order to meet with the different environmental legal requirements, the procedure would in any case resemble the R1183 process closely.) The crucial importance of section 110 is something different. It determines who makes the final decision. If R1183 is used, the final decision-making authority in terms of R1183 is the Minister of Environmental Affairs and Tourism. If the Minister of Water Affairs and Forestry however considers it appropriate not to use R1183, the effect of his decision is also that he or she will take the final decision as to whether the environmental impact assessment was properly done and whether and how the project can continue.

In my view it would not be wise for the Minister of Water Affairs and Forestry to sit in judgement upon an application where he or she is also the applicant. It would be much wiser to leave this decision-making function to DEAT. The chances of subjectively influencing the decision are substantially diminished. More importantly, the perception of the public could be that the Minister of Water Affairs and Forestry wants to bulldoze the proposal through and for that reason is not prepared to subject the application to evaluation by the DEAT. Such perceptions can be very potent and where a potentially inflammable situation must be dealt with, care should be taken to avoid such a potential for problems.

#### **10.4 Water Services Act, 108 of 1997**

This Act only has a limited impact on this development. The purpose of the Act deals with basic water supply and sanitation. It therefore deals with what should happen to water that is available rather than how to make water available. Even so some reference should be made to some parts of the Act.

10.4.1 Section 2 lists the main objects of the Act. The relevant part of the section reads as follows:

*“2. The main objects of this Act are to provide for –  
(a) the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being; ... the promotion of effective water resource management and conservation.”*

10.4.2 Section 3 deals with the right to water. The relevant part of the section reads as follows:

*“3 (1) Everyone has a right of access to basic water supply and basic sanitation.”*

#### **Comment:**

The sections are largely self-explanatory. Regardless of any other factor, the basis of water management is to provide everyone with basic water and sanitation regardless of whether they stay in the Thukela Catchment or in the

Vaal Catchment. This right is similarly coupled with the duty to ensure the type of environment that is protected in the new Constitution.

## 10.5 Environment Conservation Act, 73 of 1989 (ECA)

The ECA is overarching legislation. It addresses several typical environmental management issues such as environmental policy, nature conservation, pollution control, environmental management and others.

The legislative programme of the Department of Environmental Affairs and Tourism (DEAT) is to prepare sectoral legislation for each field and as it is promulgated, to repeal the sections in the ECA that deal with the subject. NEMA contains the principle and the environmental management component of environmental governance. The corresponding sections in ECA were repealed.

It is necessary to consider the ECA for three reasons. Firstly it contains the legislation dating back a few years which at that stage was binding on DWAF among others and against which actions of DWAF could be tested. Secondly, due to the effect of some transitional sections in NEMA, several repealed section in ECA must still be applied and will be applied for several years to come. Thirdly, some of the sectors in ECA for which sectoral legislation had not yet been passed are still binding.

10.5.1 Sections 2 and 3 deal with policy. The relevant part of the sections read as follows:

### *“2 Determination of policy*

- (1) ... the Minister may ... determine the general policy ... to be applied with a view to –
- (a) the protection of ecological processes, natural systems and the natural beauty as well as the preservation of biotic diversity in the natural environment;
  - (b) the promotion of sustainable utilization of species and ecosystems ...;
  - (c) the protection of the environment against ... deterioration ...”

### *“3 Compliance with policy*

- (1) Each Minister, competent authority, local authority and government institution upon which any power has been conferred or to which any duty which may have an influence on the environment has been assigned by or under any law, shall exercise such power and perform such duty in accordance with the policy referred to in section 2.”

Notice 51 of 1994 of 21/01/1994 determined the general policy in terms of section 2 of the ECA.

### **Comment:**

The main purpose of discussing the sections in some depth is to illustrate how long good environmental governance has been required in our law. This is to neutralise the tendency to regard 5.9.1997, the date on which R1182 and R1183 was promulgated, as the starting point for legally enforceable environmental

governance.

On reading section 2 the impression is gained that it would only become effective once a policy had been determined. This is not the position. As it stood, it defined the framework within which environmentally-related decisions had to be considered. In the case of *Corium (Pty) Ltd. and others v Myburgh Park Langebaan (Pty) Ltd. and others* 1995 (3) SA 51(C), the court had to consider the granting or refusal of a permit that would impact on a protected natural environment governed by section 16 of the ECA. In this regard the court found at 65I that the Administrator

*“had to take into account the policies, purposes and the true intent of the 1989 Act which established the status of the ground with which it was proposed to interfere. ... the expressed purpose of the Act is the preservation of ecological processes and natural systems and natural beauty, indigenous wildlife and biotic diversity ... I think it is necessary to add ... that the 1989 Act goes further than s(16)(1)(a) (dealing with a PNE) in regard to what its intentions are. Part 1 of the Act, s2, provides for the drawing up of a general policy for environmental conservation ... Such a policy has not been ... published. But it seems to me highly relevant in attempting to ascertain the purposes of the legislation to observe that, in providing for such a policy to be drawn up, s2 says that the policy shall be drawn up and applied with a view to four considerations which are spelt out in s2(1)(a), (b), (c) and (d) of the Act.”*

From 1989 therefore, the broad framework in which projects such as the TWP had to be considered, was contained in the policy section of the ECA.

On 21/01/1994 the general policy was formally determined in accordance with section 2 of the ECA. It became binding secondary legislation on publication. That was confirmed in the case of *Van Huyssteen and others NNO vs. Minister of Environmental Affairs and Tourism and others* 1996 (1) SA 283 (C). In that case the court had to consider whether the general policy had to be considered if a rezoning decision in terms of the Cape Land Use Planning Ordinance were applied for. At 303D the court said

*“The direct link between a rezoning application under the Ordinance and Act 73 of 1989, is to be found in s3 of Act 73 of 1989, ... which clearly obliges second and third respondents to exercise the powers conferred by the Ordinance ... in accordance with the policy determined under s2 of the Act.”*

From January 1994 therefore, it was also the duty of DWAF to apply the contents of the general policy. The implication of course is that if any decision were taken by DWAF since 1994, they would have to be able to show that they complied with the policy. Failure to show compliance can entitle the court to set aside that decision.

The general policy is wide-ranging. The premises and principles in it include the duty to act as a trustee of the natural environment in the interest of succeeding generations. All activities that may have an influence on the environment must be considered and steps taken to protect, maintain and improve it. The protection of ecological processes, species, habitats and land forms is regarded as essential for the survival of life on earth. Sustainable development is accepted as a guiding principle for environmental management. In more detail regarding land-use, it is

stated that

*“Judicious use of land is an important foundation of environmental management. All government institutions ... must therefore plan all physical activities ... in such a way as to minimise the harmful impact on the environment ... Before embarking on any large-scale or high-impact development project, a planned analysis must be undertaken in which all interested and affected parties must be involved. ... particular efforts must be made ... to protect water resources ... Among the main attractions South Africa has to offer as a tourist destination, are its aesthetic qualities and the scenic beauty of the environment ...”*

With regard to nature conservation it is among others, stated that the

*“maintenance of the ecological integrity and natural attractiveness of protected areas must be pursued as a primary objective. All responsible government institutions must apply appropriate measures, based on sound scientific knowledge, to ensure the protection of designated ecologically sensitive and unique areas ...”*

Regarding the urban environment it is stated that a holistic environmental approach will form an integral part of all facets of urban planning and development. It is not clear what is meant by urban. The impression is gained that new developments that have an urban character, even if it is in rural areas, would qualify. In effect a holistic evaluation of a project will consider the ripple effect or the knock-on effect of an action. In the Corium case, referred to above, this principle was accepted as being part of our law. The case stated at 67A that

*“it is clear ... that the ripple effect of the ecological destruction of the piece of ground with which we are now concerned, will adversely affect the ecological of the adjoining areas ...”*

The principles and approaches that make a careful evaluation and assessment of a project such as the TWP essential, had therefore formed the fabric of our law for a considerable period. The transitional arrangement in NEMA repealed sections 2 and 3 but confirmed that any action executed in terms of these actions remain legal. The repeal of section 3 therefore, removed the legal binding nature of the general policy. The fact that it had been determined however, retains it. The general policy must therefore be regarded as a guideline document.

As will be seen below, the principles in the ECA and the general policy had been restated in even more depth in NEMA.

10.5.2 Sections 21, 22 and 26 deal with the management system in the ECA. The relevant parts of the sections read as follows:

*“21 (1) The Minister may ... identify those activities which in his opinion may have a substantial detrimental effect on the environment, whether in general or in respect of certain areas.” ....*

*“22 (1) No person shall undertake an activity identified in terms of section 21(1) ... except by virtue of a written authorization issued by the Minister ...*  
*(2) The authorization referred to in subsection (1) shall only be issued*

*after consideration of reports concerning the impact of the proposed activity and of alternative proposed activities on the environment, which shall be compiled and submitted by such persons and in such manner as may be prescribed.”*

- “26 The Minister ... may make regulations with regard to any activity identified in terms of section 21(1) ... -  
 (a) *the scope and content of environmental impact reports ...”*

Government Notice R1182 dated 05 September 1997 identifies a number of activities in Schedule 1 including

- “1. *The construction or upgrading of - ...*  
 (i) *canals and channels, including diversions of the normal flow of water in a riverbed and water transfer schemes between water catchments and impoundments;*  
 (j) *dams, levees or weirs affecting the flow of a river;*  
 (k) *reservoirs for public water supply;*  
 (l) *schemes for the abstraction or utilization of ground or surface water for bulk supply purposes;”*

Government Notice R1183 also dated 05 September 1997 established the scope and content of environmental impact reports and how the environmental impact assessment process should be executed as required in sections 26 and 28 of the ECA.

**Comment:**

If regard were had to the wording of the ECA and the regulations promulgated in terms of the ECA, it would be incumbent on DWAF to apply R1183. If paragraph 10.3.7 above is considered, it appears that the National Water Act amended the position to some extent. As set out above, when it comes to the *construction* of a waterwork, the Minister of Water Affairs and Forestry may decide against applying R1183. To the extent that a decision must be made with regard to one earlier step in the incremental decision-making process, namely deciding on the principle of whether water should be transferred out of the Thukela or not, it seems as if the Minister is bound to use the R1183 process.

The environmental management system contained in NEMA builds on the system in ECA. NEMA also makes provision for the identification of activities such as in section 21 of the ECA and also makes provision for the preparation of a procedure similar to R1183. Authority is given to the national government and each of the provinces to do so.

The transitional arrangement is that the ECA system remains in place until a new impact assessment procedure had been finalised for a province or the central government and activities identified. Only then does the ECA system cease to operate with regard to that province or the central government that established their own process. For the foreseeable future the ECA structure will therefore remain in force.

## 10.6 National Environmental Management Act, 107 of 1998

The Act came into operation on 29 January 1999. It contains numerous sections that definitively lay down basic principles that must be complied with whenever any developmental activity is undertaken. It is advisable that the appropriate principles are quoted fairly extensively:

### 10.6.1 Principles binding on many role players:

*“2.(1) The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and –*

- (a) shall apply alongside all other appropriate and relevant considerations ...*
- (c) serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment; ...*
- (e) guide the interpretation, administration and implementation of this Act, and any other law concerned with the protection or management of the environment.”*

**Comment:**

The principles in NEMA are therefore binding on DWAF as well.

### 10.6.2 Sustainable Development :

*“2.(3) Development must be socially, environmentally and economically sustainable.*

- (4) (a) Sustainable development requires the consideration of all relevant factors including the following: ... “ (And then a long list of activities are given, some of which are quoted below.)*

**Comment:**

The need to ensure sustainability in development is frequently not taken seriously in the implementation of a project. It frequently gives rise to an almost knee-jerk reaction where, for a solemn moment, everybody agrees that the development should be sustainable and then goes on doing what they had always been doing in this regard.

This is not acceptable. The essence of sustainability in development is that the resources created in the process of a development should be at least equal to or more than the resources destroyed in that developmental process. This requires an investigation and subsequent quantification of the value of existing resources that will be destroyed. The second step is an investigation and quantification of what comes in its place. If the value of the new development falls short of the target figure of the value of the existing resources, the project must be revisited until an adequate value is ensured failing which the project must be abandoned.

Ensuring sustainability could require either that the adverse impact is reduced or the beneficial impact is increased. Thus a dam positioned where it causes extensive environmental degradation might be moved to a position where it is more expensive to build and maintain it but where the environmental destruction that it causes is substantially less. Alternatively, the mitigatory actions can be

increased to such an extent their value equals the substantial value lost in the developmental process.

It would be wise to undertake this exercise, to do the quantification and to validate it in a public participation exercise in order to avoid being attacked on non-compliance with one of the most crucial environmental principles.

10.6.3 “Strong” and “Weak” Sustainability :

*“2.(4)(a)(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;”*

**Comment:**

In environmental literature the concepts of “strong” and “weak” sustainability are used. Where natural environmental resources with a certain value are destroyed and are replaced with man-made resources with a similar value, the total capital of the earth is maintained and the requirements of sustainability are therefore met. As natural resources are destroyed however, it is called weak sustainability.

Development could also be structured in a way that retains all or as much as possible of the natural resources. Thus the use of 10 000 hectares of pristine wilderness area can be done by choosing a small section that had been degraded or that does not have a substantial natural value as the lodge and the high-impact area. The ecologically important area can then be retained and protected by ensuring that it can be seen by hikers, used by researchers, exploited for its bio-diversity but is nowhere degraded through use. This would be strong sustainability.

The planning process should therefore investigate this aspect specifically. An example already used is not to put the dam in an ecological sensitive part of the Thukela but in an ecologically less sensitive part or even in a catchment bordering on the Thukela with a transfer of water out of a relatively low weir to the major dam in the neighbouring catchment.

10.6.4 Visual, recreational or ‘sense of place’ degradation :

*“2.(4)(a)(iii) that the disturbance of landscapes and sites that constitute the nation’s cultural heritage is avoided or where it cannot be altogether avoided, is minimised and remedied;”*

**Comment:**

This section joins with other similar sections. It need not be explained.

10.6.5 The Precautionary Principle :

*“2.(4)(a)(vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;”*

**Comment:**

This section introduces the precautionary principle. Care should be taken not to apply this principle incorrectly.

It does not mean that all risk must be avoided. It is therefore not a negative requirement. It in effect requires that any impacts be properly assessed until clarity is obtained as to its possible impact and that decisions are taken on adequate information. The section in effect sends the developer back to the drawing board if it hasn't got enough information to answer questions properly. The level of information required is the information necessary to satisfy a decision-maker on a balance of probabilities.

#### 10.6.6 Requiring proper advanced planning :

*“2.(4)(a)(viii) that negative impacts on the environment and on people’s environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.”*

**Comment:**

The requirement that a project be properly investigated before it is undertaken is stated and restated so many times and in so many places that it becomes very repetitive. Every time however, it reinforces the need that a developer must do his homework properly.

*“2.(4)(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.*

*1.(1)(iii) ‘best practicable environmental option’ means the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term;”*

**Comment:**

In these two sections the principle of holistic evaluation is firmly introduced. Note in particular that the total benefit of a project and the total damage caused by the project must be considered. This ties up with the concept of sustainability in development and in effect requires the same treatment. In particular a quantification must be done of the typical environmental impacts. An alternative cannot be accepted as the cheapest until the social or environmental costs of all the alternatives had not been factored in.

Note too that holistic evaluation does not mean evaluating the project as a whole but rather the “ripple effect” or “knock-on effect” of a development and the way it affects the whole.

#### 10.6.7 The internalisation of externalities :

*“2.(4)(a)(ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;”*

*“2.(4)(i) The social, economic and environmental impacts of activities,*

*including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.”*

“2.(4)(p) *The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.”*

**Comment:**

These three sub-sections introduce the concept of the internalisation of externalities. For every development the potential and possible impacts must be established and planning be adapted until such time as the adverse impacts are avoided or minimised.

In essence the principle is similar to the principle of equal taxation. It is not fair to subject a community to substantial adverse economic and other impacts without compensating them for it in order to provide other communities with improved services or with benefits.

In general, the internalisation should be done rather by improving planning to avoid externalities than by paying compensation as the former better meets with the requirements of sustainability.

10.6.8 Impacts on sensitive areas:

“2.(4)(r) *Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.”*

**Comment:**

Although not specifically stated in this section, it is submitted that a river such as the Thukela is included in this category, and should therefore be given the level of specific attention required in the section.

10.6.9 Sections 23 and 24 deal with the process of integrated environmental management:

Virtually every subsection in these sections (they cover about 2½ pages) should strictly speaking be quoted in view of the importance that it has to this project. For better accessibility it will however be discussed generally.

Section 23 contains the general objectives of this chapter. One of these objectives, in 23(2)(b) is to *“identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits and promoting compliance with the principles of environmental management set out in section 2.”*

Section 24 contains the process of implementation. In this section the continuation of the management system in sections 21, 22 and 26 of the ECA is contained in s24(2)(a), (b), (c).

In section 24(7) "*procedures for the investigation, assessment and communication of the potential impact of activities must, as a minimum, ensure the following ...*" Several aspects are then listed. The need to investigate all aspects already mentioned frequently, is stated yet again, cumulative effects of different impacts must be considered, and several aspects are mentioned that should be incorporated in the planning process.

In its effect, these two sections repeat many of the instructions and introduce a few new ones that have a direct bearing on the management process. In essence however, this section merely gives details of the actions that should be followed in order to comply with the general principles set out in section 2.

## **10.7 Other Legislation**

The most important legislation that affects this project was listed and discussed above. It may conceivably be that in the course of the project, further legislation might become relevant. In this regard, the Mountain Catchment Areas Act, 63 of 1970, and the Conservation of Agricultural Resources Act, 43 of 1983, are examples of legislation that, depending on specific circumstances existing at that stage, might be applicable.

If this should happen, the influence of this legislation will probably be limited. There are also certain common law rules such as the law of nuisance that could become important. Here as well the importance of the rules at this stage is not such that it warrants detailed investigation.

## **11. AN INVESTIGATION AND EVALUATION OF KEY ISSUES THAT HAD BEEN IDENTIFIED**

### **11.1 Key Issues at National Policy or Multi-Regional Level**

Each of the issues identified will be dealt with separately.

#### **11.1.1 The effects on the receiving economic, social and bio-physical environments of the Vaal River resulting from a supply of water:**

Several questions must be answered in this regard. One question is whether the transfer of water is really necessary. The one focus in this question is whether the more effective conservation of water would not adequately meet the need that a water augmentation programme seeks to address. It is fairly standard in environmental management that the "no-go" option should be evaluated and that studies in this regard should be made available. To the extent that this work had been done, the studies must be made available and used in the public participation process to demonstrate that this aspect had indeed been attended to.

Another question that should be addressed deals with whether it is economically

advisable or necessary to augment water supplies. Research would normally be necessary in this regard in order to compare the marginal value of the water transferred in the broader economic perspective in order to compare it with the marginal value of that water in the Thukela Catchment.

I understood that several economic studies had been done. Evaluations have been made that indicate that water augmentation is essential. These studies must be made available, they must then be studied and incorporated in the basis documents that should be collected in a document such as the "Briefing Document" that I suggest.

It is necessary to look critically at these studies however. In the introduction to the article "*Climate: Making Sense and Making Money*", by Amory B Lovins and L. Hunter Lovins from the Rocky Mountain Institute 1997 at p1 with regard to another environmental good, the following warning is sounded:

*"Samuelson, like so many business people, believes climate protection is costly because the best-known economic computer models say it is. Few people realize, however, that those models find carbon abatement to be costly because that is what they assume. This assumption masquerading as a fact, has been so widely repeated as the input and hence the output of supposedly authoritative models that it is often deemed infallible."*

Care should be taken that the above quotation is not applicable to water transfer. The phrase "climate protection is costly" could be replaced with the phrase "water augmentation is essential" and the remainder of the paragraph amended accordingly. In this regard the following aspects should be looked at:

What were the assumptions on which the studies were based?

What were the terms of reference for these studies?

Were studies where water is the critical growth factor, used? In this regard an economic model can be skewed if it assumes a need for water in the Vaal Catchment where the industry could easily settle anywhere else where water is available.

Were the bottleneck effect of other growth factors such as the availability of other resources been considered? It is misleading to project a water need for an industry in the Vaal Catchment if that industry cannot be established in the Vaal because other critical resources are not available.

What should also be brought into the equation is the adverse impacts, to the extent that there are any, of such transfer of water.

11.1.2 The legal and administrative framework within which decisions had been made:

What the framework should be like is set out in detail above. It is now necessary to do a critical appraisal of the framework that had been used up to now. To the extent that this framework does not meet with the relevant requirements, corrective action should be taken. For this purpose the third approach in 8.2.3 above could be considered.

- 11.1.3. The consequences of a political backlash resulting from the export of water out of KwaZulu Natal to the Vaal River supply area:

This aspect had been fully dealt with in the study of Turton A.R. & Meissner R. "*Thukela Water Project Feasibility Study: Strategic Impact Assessment of the Hydro-political Aspects*". The study highlights the political sensitivity of this issue. To the extent that political realities need to be considered, this Report accepts that it will probably be dealt with at Cabinet level. The interface between this Report and a political decision lies in the ability of the political decision-makers to convince their constituencies that they acted in a politically responsible way by making a decision with technical, legal and administrative components.

This will be determined by the technical, legal and administrative correctness with which the matter is addressed.

More within the terms of reference of this study, is the manifestation of a political backlash should it arise, and how the long term sustainability of the project can be affected. Any political backlash that deals with votes, as said above does not fall within the scope of this Report. A political backlash that is translated into action taken on legal grounds against the project must certainly be anticipated in this Report. What could happen if a political backlash should arise and parties for whatever good, bad or indifferent reason in KwaZulu-Natal should decide to oppose it, it will have to do so on legal grounds. That will have to be an application to court to interdict the implementation of the procedure. This can be done regardless of whether the opponents of the project represent the full will of the body politic in KwaZulu-Natal or whether it represents only a marginal number of extremists. The result could be that the timing of a court action could be carefully and strategically design to cause maximum havoc. This could be after all contracts had been signed but before any work has been done regarding the actual building and construction processes. This can seriously embarrass the Government, can cause delays, can add a substantial amount to the costs of the project and can jeopardise the entire project.

I do not think that it will have any impact on sustainability. Once it had been decided that the project goes on and full legal sanction is given for the project, problems are not expected with regard to its management. If it is decided to cancel the project or if the effect of a court decision is to close it down, there is no project to sustain. The avenue that is therefore suggested is, starting now, to take steps throughout the process that pre-empts any future court action. It might even result in a court action brought by affected parties at a stage when it will not embarrass Government to the extent that it otherwise might do. This is preferable to a later court action. If the Government succeeds, then it opens the door for effective implementation. If the court action is against the Government, clear instructions have been received to then consider alternative approaches.

- 11.1.4. The legal protection of rivers :

Rivers are not specifically protected in South African law. In a way it is similar to the protection of soil against pollution (in contrast to the protection of soil against erosion, overgrazing etc). There is very little legislation that protects the soil against pollution. There is however a substantial body of legislation that protects water quality and that inevitably has the effect of protecting the soil against

pollution. The protection given to water quality, ecosystems, biological diversity, aquatic life, the fact that a Reserve must be established and other requirements all contribute to the protection of rivers. This is not a satisfactory state of affairs as it reduces the management efficiency with which river protection is addressed.

The main source of protection for rivers is to be found in generally applicable legislation. Thus the principles contained in section 2 of the National Environmental Management Act, 107 of 1998, though general in nature effectively protects rivers as well. It is important to realise about a river and its immediate surroundings, that it probably has a higher level of biological diversity than land further away. A river has so many faces to it that it inevitably tends to increase the bio-diversity. There is the bio-diversity in the water itself; in the in-between zone between the water and the land; in wetlands that are frequently associated with rivers. The different temperatures, different angles of the slopes going to the river and different fronts of these slopes tend to encourage a bigger range of bio-diversity. The fact of a slope facing either north, east, west or south are only one factor that affects bio-diversity. Usually the soils near rivers are deeper and more fertile where the natural erosion resulted in such deposition of soil at convenient positions.

The requirement that a development should comply with the requirement of sustainable development (section 2(4)(a)(i) of NEMA that deals with bio-diversity) lists a large number of factors where rivers are concerned that requires investigation. Added to this are the possible archeological, cultural, recreational, residential, agricultural and other benefits that rivers frequently have. For obvious reasons people over the ages preferred to settle near or next to rivers, to build their houses, to bury their dead and others. It is not surprising that there frequently are very emotional and highly voluble outcries whenever a valley area needs to be evacuated in order to establish a dam. It is usually because much that has value to people and that in the broader perspective might have value, could be lost in the process.

The establishment of a dam invariably has environmental impacts downstream. In some cases these impacts could be managed. In other cases it cannot. There is for example an increasingly large body of research that shows that the Aswan Dam has so affected the land downstream from the dam, that much more was lost than had been gained through the dam.

It is required in NEMA in for example section 23(2)(c) and section 24(1) that activities such as the establishment of a water transfer scheme which requires authorisation by law "and which may significantly affect the environment must be considered, investigated and assessed prior to their implementation ..." In deciding about whether these impacts would have a major adverse effect or not, NEMA further requires in section 2(4)(a)(vii) that "a risk-averse and cautious approach" should be applied. This section introduces the precautionary principle, which is discussed in paragraph 10.6.1 above. The implication is that if a court case is brought 10 years down the line and DWAF cannot show that it had at the appropriate stage of the project considered these aspects, general environmental protection of rivers could be used against it.

There are also several sections in the National Water Act, 36 of 1998 that has the effect of protecting rivers. The determination of the Reserve of course is a major protection for rivers. A Reserve has the intention of ensuring that the

quantity and quality of water must be established to ensure that it satisfies basic human needs but more importantly in this case, to protect aquatic ecosystems in order to secure ecologically sustainable development and use of the relevant water resource. (Section (1)(xviii)). In principle a dam will destroy many aquatic ecosystems. The question can well be asked whether a dam that cannot secure the ecological sustainability of the Thukela River may be built. At the very least it is essential to consider the ecological sustainability of the entire area that could be affected by a dam in preparation for establishing the Reserve. If a reserve had not been determined, the exercise will have to be done in order ensure that the later determination of an adequate reserve is not prejudiced. In the process “the social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment”. (NEMA section 2(4)(i)).

Obviously the apparent contradiction between the duty contained in the National Water Act to make water available by for example promoting the equitable access to water on the one hand and protecting the aquatic ecosystems on the other hand, must be resolved. The exercise necessary for this purpose must compare the values of maintaining the aquatic ecosystem and providing water. This will among others be determined by how critical either of these two needs are. Conceivably if water can be obtained from the sea after desalination, a strong argument could be made out that the initially more expensive exercise of using desalinated sea water, in effect is the better option if the total value of the ecosystems are considered and if the need for strong sustainability (sustainability that does not rely on the replacement of natural with man-made resources but on maintaining natural resources) are met with.

In principle no river merits special protection.

It is the total of the components that decide the extent of the protection that should be afforded to a given river. In this regard the Thukela River probably merits more protection than most because it probably has more ecological or other value that could be destroyed. Thus a process of using the water from the Thukela River by pumping it out of a low weir into a less sensitive and less valuable adjoining valley where a huge dam can be erected, could theoretically be an approach that addresses this issue.

#### 11.1.5. Building large dams in the present international climate:

The international climate with regard to the building of large dams is discussed in the Hydropolitical study of Turton & Meissner. The international attitude is such that it should be regarded with respect. The problem facing DWAF in this regard, is that it is always dangerous to take decisions and undertake projects that does not meet with the attitudes and guidelines that the general international community then uses. It has many impacts. This includes the wealth of information that could be obtained internationally and that could be used in a court case to show that South African is out of line. Again it becomes necessary to investigate this specific issue specifically and conduct further planning within its parameters.

The main danger is not so much the failure to meet with what is acceptable internationally. Where appropriate, where carefully considered and where local

conditions justify a departure from international norms, such a departure would be acceptable. The danger is not investigating the issue.

11.1.6. The determination of the Reserve in the Vaal and Thukela Catchments:

As discussed in paragraph 10.3.5 above, the determination of the Reserve has the purpose of protecting the quantity and quality of water necessary for humans and for ecosystems. It is a minimum requirement. It is conceivable that aquatic ecosystems in the Vaal Catchment can be adversely affected if large quantities of water continuously flow along a certain river. It is not seen that it will have other major impacts. As the Reserve has the purpose of establishing a minimum quantity of water that must be allowed to remain in the river and water transfer into the Vaal will not reduce that minimum but will make more water available to maintain it, it should not be a problem. Some investigation should therefore be done to establish to which extent the aquatic ecosystems could be adversely affected by such a transfer of water.

The position with regard to the Thukela River is substantially different, as was said above. Two aspects should be considered in this regard. The one is the destruction of aquatic ecosystems through a dam, through the water impounded behind the dam and through a change in the downstream impact of water. (In this regard it should also be pointed out that the holistic impact of a dam should be considered as well. It should show that the knock-on effect and the impact that the dam would have on the interactions between all the different environmental components downstream, produces an acceptable result).

The other problem is one of water quantity. If a Reserve has not yet been established, it is not possible to know what quantity is necessary to also ensure protection of aquatic ecosystems. Deciding on a volume of water that could be extracted without investigating this issue in depth might prejudice a later decision regarding what a reserve should be. It is therefore necessary to conduct a study to be able to show, not necessarily what the Reserve is, but to prove that the water that will be extracted will not prejudice the Reserve or will not extract more water than would be required by the Reserve at a later stage. There is a difference between reaching a conclusion that on a worst case scenario, a certain quantity of water would be required, thereby enabling the making of a decision for the extraction of a quantity of water that will be more than the relatively large worst case scenario, and determining the final Reserve which is a more precise figure and which would be less than the worst case scenario.

11.1.7. The impact of HIV/AIDS over the next few decades:

This is of course a vital aspect. It is generally accepted that AIDS will have some effect on the population. The effect could be major. Again the question is not so much what the effect will be as the necessity to investigate the issue adequately. If confronted in a court case by the allegation that the DWAF had not proved that the structures it intends building will be necessary at all, the Court can take the attitude that DWAF had not done its homework properly and sends it back to do so. A body of research into AIDS, its spread, its mortality figures, addressing it and many others are widely available and had been done extensively. It does not appear therefore that it would be a major task to establish this. Some figures however must be made available. In this regard it is pointed out that the staged approach with regard to the establishment of water transfer structures would be

advisable. The projection of mortality because of AIDS for example over the next 5 years could be substantially more reliable than the projection of between 5 to 10 years from now. To do planning therefore to meet with the next 5 years in such a way that the 5 to 10 year programme can be toned down conveniently if AIDS figures were to show a sharp reduction in the need for water, then the chances of a court interfering with the programme would be substantially reduced.

11.1.8. The status of decisions of DWAF already made:

This aspect is dealt with in some detail above. As is pointed out, some revisiting of decisions made and perhaps even some “retrofitting” of decisions could be indicated. The approach that could be considered for this purpose is set out in paragraph 8.2.3 above.

11.1.9. The implications of non-augmentation for the economy of the country:

This is an aspect that was dealt with in some detail in 11.1.1 above. Particular care should in this regard be taken to consider the mobility of business. Policies in the past dealing with the decentralisation of industry simply did not work. That was mainly because it was approached on the wrong basis and for the wrong reasons. Natural growth in industry is a different matter. It might therefore be that industries that considered establishing themselves in the catchment of the Vaal River, might decide against it if the cost involved is prohibitive. The cost could well for certain industries revolve around water. The cost can also be influenced by the cost of purifying water. The pattern of development in the Vaal Catchment is strongly in the direction of Zero Effluent Discharge Facilities. This is because the probabilities are that the receiving water body, the Vaal River is critical with regard to the contaminants in it already and on the other hand in view of the cost of transporting water, the cost of the water itself will increase sharply. Where an industry relies heavily on water it might just decide that it is cheaper to establish itself near Newcastle or Estcourt or Ladysmith because it makes financial sense.

In such a case the economic feasibility study should be careful to distinguish between development that because of water shortage will not be established at all and development that because of water shortage in the Vaal River will be established in the Thukela Catchment. Another aspect of importance in this study is to establish whether the free availability of water in the Vaal Catchment does not have the potential of skewing development. The availability of water among others sends out an economic signal. This signal is that development should be undertaken in the Vaal Catchment as there is adequate water available. The question now is whether other infrastructural aspects are adequate and in place to meet such an increase in development. Are there appropriate places for residential purposes, for recreational purposes for the people working there, are there enough roads, can waste be disposed of adequately, is the feeder area for this development area able to cope etc.

11.1.10. General financial/economic issues :

This is not noted as a key issue but in my opinion it should form part thereof. In essence development must be shown to be justified. It must therefore show that, seen over the long term, it will bring more benefits than detrimental effects. For this reason an extensive quantification exercise would be essential. It is

preferable that it be shown that a particularly large variety of aspects had been considered and had been properly quantified in order to make an informed and a justified decision.

In this regard, it is of course possible for DWAF to produce the research itself and to rely on it. This however could be a risky approach to the matter. It might for example happen that side-line critics, 10 years down the line, can poke holes in this evaluation. This is especially easy if reliance is placed on that most exact of all signs, namely hindsight. A substantial measure of protection can be built in if crucial aspects are brought into a debating forum thereby giving everybody an opportunity of dealing with it specifically. I would however not recommend the general shotgun approach with regard to public involvement.

For example, I am aware thereof that desalination is widely touted as a solution. I would not recommend that this aspect be dealt with by way of an in-house study done by DWAF. I would certainly also not recommend that it be thrown open to the general public as a wide debate. I would rather recommend that carefully planned workshops be organised. For this purpose all possible role players that could make an informed and scientific contribution to this process should be involved. For this purpose the relevant international figures in this field should be invited. It should not be a public affair to begin with. It should also be structured with the recognition that people that could play a major role in such a process would not be prepared to make public any information that could lose them their competitive edge. The approach therefore would rather be to have a slightly more general workshop that collects the appropriate information to the extent that it is possible to do so and that establishes directions of development.

Where the possibility is shown that the cost of desalination can be brought down and a broad indication is given as to the timeframe in which it can happen, the matter can be taken forward in two ways. The first would be to prepare a type of 'strawdog' or discussion document that could be made available for information purposes and that can be generally distributed in order to enable all other role players who might have a suggestion in this regard to join in the debate. Another approach is to structure the workshop in a way that will make it possible for people that have a technical solution but did not want to expound it at the workshop, to meet privately with DWAF officials subsequently in order to provide detail in more depth. The information document can then be updated from time to time and can be used as proof at a given stage, if that is the position, that desalination is not acceptable. If technology changes favourably, it could be used as a justification to introduce it when appropriate.

The approach with regard to the example used, desalination, could equally be used for other focal points and at different levels. Having the information available however, is not enough. If such information is inaccessible, it results in informational illiteracy. The public will react to it as if it doesn't exist. Care should therefore be taken to ensure that with regard to such crucial issues, a constantly updated summarised report is available.

Regarding the smooth implementation of any system, it is in my view important to have such a document available to negate any accusation that DWAF did not consider this aspect properly.

## **11.2 The Impact of Issues at a Regional Level:**

In evaluating the issues on the regional level, care must be taken to distinguish between the approach that should be followed in addressing issues at the national level and addressing issues at the regional level. The decision to be made at the national level is in effect the first step in the incremental decision-making process discussed in 5.3 and 5.4 above. The aspects that should be considered and the principles against which the actions should be considered, deal with deciding whether or not water should be transferred out of the Thukela Catchment.

Once this decision in principle had been decided, the next step is to decide on the broad framework for the implementation of this decision. Different principles govern this second step in the process and the information that should be generated would then obviously also be different. Research at the first stage would mainly consider the advisability or not of such a project at all. The decision to approve the project in principle would usually be subjected to certain broadly framed conditions to indicate how implementation should broadly be done. Once this decision had been made, the position changes. It, during the second phase, requires an evaluation of the issues on regional level to establish how the project could be implemented within the constraints of the condition and in a manner that avoids or limits and makes good the adverse impacts of the project. To the extent that research is available in this regard, it can obviously be used subject thereto that it be made available to the public in the public participation exercise. It appears however that further research should be done to address aspects that had not yet been addressed.

### **11.2.1. The impact on the construction, commissioning, operation and decommissioning of the project on a variety of factors.**

In this regard several general studies would have been done for the first phase of the decision-making process. It is accepted that there are probably a substantial number of reports available that deal with a variety of processes in the catchment and with the natural functioning of the Thukela. A variety of aspects could conceivably have been considered in this regard. The aspects so discussed should be mentioned, the studies undertaken discussed, the potential impacts identified and analysed.

Human activity equally forms one of several fields of detailed study that would have been done.

The question of bio-diversity considerations would also have been dealt with for the purposes of making a decision with regard to the first stage of the decision-making process in order to establish whether any development would meet with the requirements of sustainability. To a large extent this would require a level of information that will enable informed decisions to be made with regard to different broad alternatives of the positioning of such a project.

At the second stage of the decision-making process the broad framework for the implementation of the decision in principle to allow the transfer of water out of the broad Thukela Catchment must be established. The studies leading to the first decision would broadly have shown that the threat to bio-diversity could be overcome and that the natural functioning of a river such as the Thukela could be

addressed adequately. The management decision that needs to be made now, is how the adverse impacts that would inevitably accompany such a process could be minimised most effectively by positioning the project correctly. The essence of the studies done for this purpose therefore would have to meet with the requirements of comparing and deciding between different options, using an appropriately wide matrix.

From the above it would appear that what is of particular importance at this stage is the positioning and the deployment of the project.

I accept that for the purpose of deciding on the positioning, any practical management tool could be used. I stand to be corrected but I seem to remember that a certain Mr Leopold (not Aldo Leopold) devised such a comparative system for the USA. This relied on giving appropriate values to a wide range of aspects, thereby allowing the comparisons of apples with apples rather of apples with pears. Other management tools, such as establishing the financially quantified totals of the environmental impacts of the different options and choosing the least expensive could also be used.

#### 11.2.2 The impacts of a dam in the Thukela downstream :

Again this issue would have been dealt with in some detail in the first stage of the process. The threats and dangers inherent in such a dam for downstream users would have been spelled out in the first stage already and the decision would have been made that the impacts could be dealt with. At the second stage it now becomes necessary to set out in more detail the mitigation of any adverse impacts and the different ways in which mitigation can be ensured. In the discussion of the applicable legislation, the need to deal with this aspect thoroughly and comprehensively is set out.

#### 11.2.3 The impact on the freshwater requirements of the estuary and wildlife:

This fits in with the question in 11.2.2. Inasmuch as an acceptance of the fact that the mere building of a dam would require regulation of water flow and others, it appears that what would have to be undertaken is the evaluation of different regulatory structures and procedures and its appropriate modelling beforehand in order to ensure that the best regulatory process is implemented.

#### 11.2.4 The impact of the support infrastructure of the project :

This is essentially an aspect that needs to be addressed in socio-economic studies. The basis for the study would also have been established in stage 1 where the broad impact both beneficial and adverse, of this aspect of the project would have been evaluated and factorised into the final decision. Again the investigation for the second stage should focus on exploiting the most advantageous use of the infrastructure. Where the dam is a destination only, expensive roads built to it could have an add-on value that is restricted to only the recreational use and maintenance function of the dam with perhaps a few farmers benefiting from better tar roads. On the other hand if the dam for typical construction purposes provides a major, previously disadvantaged or isolated community with an upgraded road system of which 80% is tarred, a substantially larger add-on value can be established.

11.2.5 The effect of the export of water on the economic development of KwaZulu-Natal:

This aspect is largely addressed in paragraph 11.1, at the national policy decision-making level. It should specifically address issues such as the possibility that an increase in water to the Vaal Catchment will entice potential development to the Vaal Catchment rather than encourage them to settle in KwaZulu-Natal.

11.2.6 The economic effect of the construction of dams and roads :

This also forms part of the broad economic study. As such it forms a basis for the development of a further aspect. This is to add economic capacity and other benefits to the area. For this purpose the development could be structured in a way that uses the skills that are available and that introduces skills training and other similar factors in order to maximise any economic benefits that the building of such an undertaking will cause.

11.2.7 The impact on crime levels :

This requires a different study to be done.

11.2.8 Forward and backward linkages :

This aspect only comes into play once the decision has been made in principle that a certain development should be taken. Again the position is that effective backward and forward linkages do not happen automatically. They must be built in. Backward linkages require a certain basis before it can be effectively deployed. Whether this basis can be established or whether it is there, is part of the research that should be done. The same applies to forward linkages. This is an aspect that in the broad implementation of a project can play a major role and can also play a definitive role in deciding on the precise placing of the scheme itself.

11.2.9 The impact on the movement of people :

This too is a factor that only comes into play after a decision in principle had been made. Research in the second stage is essential in order to establish the proper placing of the development. There is little point in establishing a project in such a way that it can only be effectively utilised by communities that must undertake a large scale migration to the project before the benefits of the project can accrue. Such a project, whether it is one large project or whether it is a series of smaller projects, could be established at a place or at places where there are already people available that could benefit from such a development. In the process care could be taken to maintain the integrity of communities and to develop it rather than to detract from it. In this regard, for example, a major problem in many developments is the effect that a labour force coming from major cities could have on a number of local interactions. In this regard the studies for Saldanha could be evaluated. They deal with the training and empowerment of local people to benefit from a project and the structures put in place to avoid the migration of unwanted elements to Saldanha. (Apparently bus loads of work seekers arriving at Saldanha were simply turned back, as the employment structure gave preference to local people in a carefully structured

manner.) Usually the number of employment opportunities that such a project can create are restricted and appropriate practices can be used to ensure that it goes to the locals.

In the process attention could and should also be focused on the requirements of national security by which is meant the security and stability created through improved local governance, improved responsibility in land-use, and a better ability to make the best use of available opportunities. While this research can only be done in detail once the decision in principle had been reached that water can be transferred out of the Thukela Catchment, it forms part of the placing of the project and part of the framework for its implementation. In the process of deciding on the siting of the project, the community or communities that will be targeted must first be identified. In the third stage, the precise manner in which the communities will be involved will be developed in an interactive process with the local communities.

11.2.10 The impact on the Land Reform Programme :

The comments with regard to (9) above is equally applicable here.

11.2.11 Practices in the upper catchment that will negatively impact on the long term sustainability of the scheme:

There is not information available to answer this question. It might be necessary to do some research in this regard. The one aspect of course, as also discussed in the Turton & Meissner study, is the effect that a hostile population might have on the project. Inasmuch as this issue would mainly be resolved at the national and policy level, it is not expected that this can cause a major problem on this level. More important perhaps, is to look at the positive side by structuring the project in such a way that the long term sustainability is important for the people. In this regard the correct planning from the beginning, getting people to take ownership of the project and planning it in a way that meets with their approval such as by doing the siting with sensitivity can contribute to the process.

11.2.12 The loss of habitat and bio-diversity caused by the project:

This too is an aspect that should make a major contribution to deciding whether water transfer out of the Thukela Catchment should be allowed at all.

If that had been decided in the positive, it forms one of the important items on the checklist to establish the most advantageous position for the proposed dams.

11.2.13 Public disease and HIV/AIDS aspects associated with the scheme:

This will probably have a fairly minor impact during the second stage. It will form part of the broad process of planning the implementation of such a scheme. Avoiding aspects that could cause disease and planning for the establishment of clinics to deal with disease when it takes place would form part thereof.

11.2.14 The impact on carrying capacity :

This too, to a certain extent, influences the decision in principle but having done so, the precise positioning of the project will also rely on this aspect.

#### 11.2.15 The use and availability of environmental indicators :

In this regard a substantial body of work had been done with regard to how environmental indicators can be used. Locally available research in this regard for example includes the publication Walmsley RD and Pretorius JR (1996) State of the Environment Series Report No 1: Environmental Indicators DEAT Pretoria. This aspect would rather be introduced at the third stage of the process (the site specific detailed implementation programme) for use during the fourth stage (the ongoing management of the project) to ensure that the targets set for the project are adequately met.

In keeping with the management focus in environmental legislation generally, it is legally necessary that the project implementation and detailed management into the future, be insured. The EMP that will be drawn up must contain adequate measures for this purpose.

#### 11.2.16 The impact of the TWP on natural resource utilisation :

This too is an aspect shortly addressed at the first principle stage that requires a substantial amount of processing during the second stage. It can also play a definitive role in the siting of the project. Appropriate research should be structured for this purpose.

#### 11.2.17 Implications for eco-tourism in the upper Thukela Catchment:

This aspect which is in many ways similar to the aspect dealt with in 11.2.16 above, is also of major importance and the establishing of the precise position where implementation should take place must take specific cognisance of this aspect.

#### 11.2.18 Legal and administrative factors at regional level :

Again the broad principles applicable to environmental law will have to be applied in a fairly supple manner to ensure compliance. It will be realised that at this stage the broad framework for implementation is being finalised. This too requires of the developer to consider a number of aspects. To some extent the holistic impact should be considered. The cumulative impact, the need to consider alternatives, the need to internalise externalities, must all be applied at this stage. For this purpose a full list of aspects that should be specifically dealt with should be prepared.

The legal guidelines that will govern decisions in this regard and the concomitant administrative duties are dealt with above.

#### 11.2.19 The loss of land or habitat and scenic landscape attributes :

This aspect will play a fairly important role in the first stage of decision-making, namely at the stage where decisions in principle must be made. Once that had been done it again reflects on the need to establish the implementational framework properly and for that reason to choose the appropriate situations adequately.

### 11.2.20 General :

What becomes fairly obvious after an evaluation of all these different aspects mentioned above, is that the technical questions that must be answered in deciding on the placing or positioning of the final site is by no means the most important part of the research that will have to be done. It is at best one of several major considerations in establishing the precise placing. The focus must be to achieve the most advantageous development. It is conceivable that a position or a series of positions can be identified for the establishing of the necessary dams and weirs and aqueducts, that in total can even double the construction costs. At the same time however it could have a major effect on economic development in an area that is in sore need thereof. It can for example establish a wide variety of developmental possibilities, create opportunities for agricultural, tourism or economic development and do so for two or three or four different communities where the benefit of the development far overshadows the enlarged costs to establish a more expensive dam structure.

For example, building two dams a few dozen kilometres downstream rather than one dam upstream could make sense if in the process substantial reserves of aquatic eco-systems and bio-diversity can be protected, the pristine character of an area retained, the tourism potential in that area developed but that the communities near the actual dams are involved in a manner that improves their ability to establish sustainable work opportunities. This can be by exploiting the employment opportunities that the protection of the natural and pristine areas and the improved access to it offers. It can also be through the establishment of industries near the communities.

It is realised that some of the suggestions or comments in this paragraph and also in other paragraphs in this Report might indicate a procedure that could increase the cost of dam building. The important aspect to realise is that whatever water transfer method is used and however it is implemented, the alternative option finally decided on must be the option that is the cheapest option to the entire community. This concept could be illustrated by an example. Let us assume that the construction costs of option A is a factor of 7 as opposed to a factor of 9 for option B. This does not make A the cheapest option. If the additional or social costs for A is 6 and for B is 1, the total for A at 13 and B at 10, makes B the cheapest option. It must be remembered that the community bears the full brunt of the entire project regardless of whether a large cost burden is caused by the environmental externality or whether it is caused by construction activities.

A useful way in which this exercise can be done is to quantify it appropriately to financial figures to explain and justify a substantially large investment in a dam where the larger investment can have substantial other benefits.

## 11.3 Site Specific Investigations

At this, the third stage of the project, the right granted in principle to undertake the project is simply not even considered anymore and the framework for the detailed implementation is clearly spelled out and finalised. What now becomes necessary is to develop a detailed management plan aimed at setting out with some precision how the project should be executed.

11.3.1 The direct effects of the construction, commissioning and operation of the dams:

In this regard, extensive research would have been done for the first and second phases. Especially the second phase would have shown the parameters in which implementation should take place to ensure optimal benefit. Within the parameters then established, the detailed planning must now take place to ensure that these aspects are addressed appropriately.

11.3.2 The impact of roads and associated infrastructure such as pump and power stations have:

The comment made in 11.3.1 above also applies here.

11.3.3 The impact on eco-systems and organisms in the dam basin and downstream:

The comment made in 11.3.1 above also applies here.

11.3.4 Recommendations that should be made to the DWAF for compensation for loss, resettlement or processes that should be used in the process:

Once a specific area had been identified during the second stage in order to establish the broad framework of implementation, it becomes particularly important to realise that omelettes cannot be made without breaking eggs. This process of breaking eggs must be carefully handled. It should already have been introduced in the broad implementational framework stage. There will be benefits for the establishment of a project near a community. This community must at an early stage know that they will have to make certain sacrifices as well. Obviously the sacrifices must be restricted to the minimum. Putting the dam where important archaeological, religious or cultural resources are that would in time be covered with water, is always looking for trouble. If at all possible it must be avoided. If it must be done, it must be handled with great care. That is why at the stage when the broad framework for implementation is established, these aspects should be looked at. Once it is accepted that a certain amount of degradation is inevitable, a specific structure for dealing with the problem must be established. The structure itself must be established in co-operation with the people that would be affected by the decisions. It should obviously make provision for appropriate representivity but also for the introduction of guidelines for deciding on issues developed in co-operation with communities and to their satisfaction. Then the process should be carefully followed in dealing with all of the subjects such as those mentioned.

11.3.5 The environmental management systems needed for the management of impacts during construction:

Within the framework set out in phase 2, it now becomes necessary to develop detailed programmes to ensure that the process be dealt with adequately. This is discussed below.

11.3.6 The risk assessment resulting from significant energy levels released over dam spillways:

This is an aspect that to a lesser extent should be considered in the first stage

and to a far larger extent during the second stage. It should form part of the many factors that is considered when the broad framework of implementation is considered.

It is realised that it is usually a good place to put a dam wall where the valley's sides are steep and a high wall can conveniently be situated. Such a placing has many advantages of construction, of cost, of reducing water loss through evaporation etc.

It has many detrimental impacts as well because those places can also destroy a substantial amount of bio-diversity, recreational opportunities and others. The good dam building sites are frequently placed in an area where the surroundings can be fairly pristine. The dam building activities can destroy that. As such therefore, that question to a large extent should be addressed during the second phase of decision-making. Once that framework had been established however, this aspect should be dealt with in detail at the third level as well to ensure that the detailed planning effectively protects what then should be protected.

#### 11.3.7 General :

The main tool of the trade that has emerged over the past few years to deal with the type of impacts reflected in this the third stage of decision-making, is an environmental management programme. This programme must be a **management** programme not a wish list or a list of vague promises. It must therefore set out in detail what may be done, what should be done, what may not be done, what should not be done, what the aims are, what processes should be used, what the targets are that should be aimed for and others. Furthermore the EMP must be placed within the parameters that had been set during the second stage of decision-making.

In preparing the EMP, it is obvious that the detailed planning for the document must primarily be done by the consultant that will undertake the project jointly with the DWAF. On the other hand, to the extent that its implementation might impact on other people, those other people should be closely involved in the drafting and finalisation of the EMP itself. The EMP should be a major document with several chapters, each of which addresses a different aspect. Thus the risk assessment done for floods will generate a number of framework measures necessary to address high-risk situations. In the EMP therefore, each of these measures will be developed and planned into detailed particulars. To the extent that it will require an early warning scheme to downstream water users, either to remove their water pumps or themselves from near the river's edge, whether it deals with the protection of banks from the erosion effect of floods or whatever, it must be dealt with fairly meticulously in the EMP.

In the same way the establishment of roads, pump stations or power stations must be described in much detail. Where the detailed implementation of the project could have an effect on the opportunities to people to join in the economic development or to protect them from adverse impacts, the planning must be done in advance. Thus the migration of noise pollution must be considered for the precise placing of the roads or its noise attenuation screens and filling stations can be positioned at conveniently placed positions for the use of a community.

## 11.4 Ongoing Management

This aspect is not dealt with in particular in the Background Document. However some provision would have to be made to ensure that the ongoing management over time is structured according to certain guidelines. For this purpose steering committees, monitoring methods, development plans and others, must be established and executed to the best advantage of all. It might for example be necessary to incorporate the need for adequate regional planning principles in the EMP and the establishment of a planning forum to ensure the effective implementation of the planning principles to ensure an effective interface with an integration between the immediate project and its wider planning implications.

## 12 PREVENTING INFORMATIONAL ILLITERACY

It would have become clear that the implications of the step-by-step process of incremental decision-making and the hordes of principles that must be considered at each step has the very real danger of creating substantial confusion. In a project such as the TWP, it is particularly necessary that one start off on the right foot. If the point of departure is not clearly described and does not reflect a common understanding of the project by all role players, confusion and confrontation becomes inevitable.

In my experience, the preparation of a Briefing Document is a valuable tool to ensure clarity as to the starting point. In this Briefing Document, a comprehensive summary of the *status quo* of the project is given. The legal bases on which the programme is based and the rights on which DWAF relies, are stated. An indication is provided as to how that position had been reached. Conclusions arrived at or assumptions which will form the basis of further work are clearly stated. In fact, role players must be specifically invited to consider it carefully and to take the matter up if they do not agree with what it contains.

In this way an opportunity is created to force issues and to clear the air. If it means litigation, at least the litigation is launched at a time when it can be dealt with and not at a critical moment when it is likely to delay the project.

Once such a Briefing Document had been prepared, it serves as a basis for the further handling of information. The aim would be to use the Briefing Document as the starting point for a dynamic management tool that is constantly updated to include all the newest developments, the concerns raised, the research done and the decisions made. Used thus it becomes a comprehensive summarised document that could at any moment provide any role player with an exact description of the then ruling status of the project or any of its components. Such a dynamic document makes an important contribution to the improvement of the efficiency of the management of the information. It is also an accessible, easily understood paper trail, something which is essential if later litigation is to be handled without major problems.

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March 2000